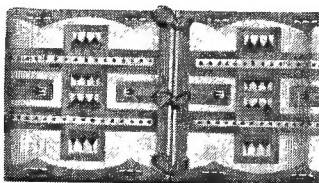


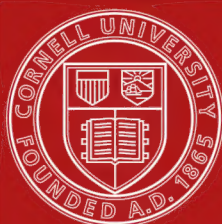


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DEPARTMENT OF THE INTERIOR  
UNITED STATES GEOLOGICAL SURVEY

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CATALOGUE AND INDEX

OF THE

PUBLICATIONS

OF THE

HAYDEN, KING, POWELL, AND WHEELER SURVEYS

NAMELY

GEOLOGICAL AND GEOGRAPHICAL SURVEY OF THE TERRITORIES  
GEOLOGICAL EXPLORATION OF THE FORTIETH PARALLEL  
GEOGRAPHICAL AND GEOLOGICAL SURVEYS OF THE ROCKY MOUNTAIN REGION  
GEOGRAPHICAL SURVEYS WEST OF THE ONE HUNDREDTH MERIDIAN

BY

L. F. SCHMECKEBIER



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1904



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# CONTENTS.

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|   | Page. |
|---|-------|
| Letter of transmittal.....  | 5     |
| Introduction.....   | 7     |
| Catalogue.....  | 9     |
| United States Geological and Geographical Survey of the Territories<br>(Hayden) .....           | 9     |
| Annual reports.....   | 9     |
| Final reports or monographs .....   | 20    |
| Bulletins .....   | 21    |
| Miscellaneous publications .....  | 31    |
| Unclassified publications.....  | 32    |
| Maps.....   | 35    |
| Atlas of Colorado.....  | 35    |
| General .....   | 35    |
| Colorado .....  | 35    |
| Idaho .....   | 36    |
| Montana.....  | 36    |
| Utah .....  | 36    |
| Wyoming.....  | 37    |
| United States Geological Exploration of the Fortieth Parallel (King).....                       | 38    |
| Annual reports.....   | 38    |
| Final reports or monographs .....   | 39    |
| Atlas .....   | 39    |
| Special publication .....   | 40    |
| United States Geographical and Geological Survey of the Rocky Mountain<br>Region (Powell) ..... | 41    |
| Early reports by J. W. Powell.....  | 41    |
| Final reports.....  | 42    |
| Contributions to North American Ethnology .....   | 43    |
| United States Geographical Surveys West of the One Hundredth Meridian<br>(Wheeler) .....        | 44    |
| Annual reports.....   | 44    |
| Final reports or monographs .....   | 52    |
| Unclassified publications.....  | 57    |
| Maps.....   | 60    |
| Atlas sheets.....   | 60    |
| Topographic maps.....   | 60    |
| Geologic maps .....   | 63    |
| Land classification maps .....  | 64    |
| Special maps.....   | 65    |
| Index .....   | 67    |



## LETTER OF TRANSMITTAL.

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DEPARTMENT OF THE INTERIOR,  
UNITED STATES GEOLOGICAL SURVEY,  
*Washington, D. C., November 11, 1903.*

SIR: I transmit herewith the manuscript for a "Catalogue and Index of the Publications of the Hayden, King, Powell, and Wheeler Surveys," prepared by Mr. L. F. Schmeckebier, of the editorial division of the Geological Survey, and recommend that it be published in the Bulletin series of the Survey.

The publications of these early Government organizations constitute a storehouse of geographic, geologic, ethnologic, and archæologic information concerning the western portion of the United States; and though their usefulness may have diminished as a result of more detailed surveys and more precise work, I believe that this complete catalogue and consolidated index will be welcomed by many students, investigators, and librarians.

Very respectfully,

P. C. WARMAN,  
*Editor.*

Hon. CHARLES D. WALCOTT,  
*Director United States Geological Survey.*





## INTRODUCTION.

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The field work of the four great surveys whose publications are catalogued and indexed herein was done between 1867 and 1879, when the United States Geological Survey was organized. The office work, such as the preparation of maps and reports, continued until several years later.

As far as known to the writer, no complete list of the publications of these surveys has been issued. The last edition of the catalogue of the Hayden survey was published in 1879, and the last edition of the catalogue of the Wheeler survey was issued in 1881. These catalogues are necessarily incomplete, as all the publications of these surveys had not been issued at the time the catalogues were printed.

The index is general in character, giving a bird's-eye view of the publications, and is not a compilation of details such as would be found in the indexes to the individual reports. For instance, it has been found impracticable to index generic and specific names in botany and zoology. The few specific or generic names appearing in the index are portions of the titles of papers. However, in order to give a general view of publications on zoology and botany, all entries referring to these subjects are subordinated under the headings: "Vertebrates;" "Vertebrates, fossil;" "Invertebrates;" "Invertebrates, fossil;" "Plants;" and "Plants, fossil." Likewise, all entries relating to ethnologic and archæologic subjects are included in the group "Ethnology and Archæology." All geographic entries are classified under names of States and Territories.

The United States Geological Survey has no copies of these publications for distribution.

For many suggestions at various stages of the work the writer is indebted to Mr. P. C. Warman.

L. F. S.



# CATALOGUE AND INDEX OF THE PUBLICATIONS OF THE HAYDEN, KING, POWELL, AND WHEELER SURVEYS.

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By L. F. SCHMECKEBIER.

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## CATALOGUE.

### UNITED STATES GEOLOGICAL AND GEOGRAPHICAL SURVEY OF THE TERRITORIES (HAYDEN).

#### ANNUAL REPORTS.

1867.

[First Annual Report of the United States Geological Survey of the Territories, embracing Nebraska, by F. V. Hayden, U. S. geologist. Conducted under the authority of the Commissioner of the General Land Office. 1867.] Pages 124–177 of the Report of the Commissioner of the General Land Office for the year 1867. Washington: Government Printing Office. 1867.

[NOTE.—Reprinted in 1873 in “First, Second, and Third Annual Reports of the United States Geological Survey of the Territories.” See page 10.]

1868.

[Second Annual Report of the United States Geological Survey of the Territories, embracing Wyoming, by F. V. Hayden, U. S. geologist. Conducted under the authority of the Commissioner of the General Land Office. 1868.] Pages 220–255 of the Report of the Commissioner of the General Land Office for the year 1868. Washington: Government Printing Office. 1868.

[NOTE.—Reprinted in 1873 in “First, Second, and Third Annual Reports of the United States Geological Survey of the Territories.” See page 10.]

Report of F. V. Hayden on the geography of the Missouri Valley, pp. 220–229.  
Geological explorations in Wyoming Territory [by F. V. Hayden], pp. 229–255.

1869.

[Third Annual] Preliminary Field Report of the United States Geological Survey of Colorado and New Mexico, conducted under the

authority of Hon. J. D. Cox, Secretary of the Interior, by F. V. Hayden, United States geologist. Washington: Government Printing Office. 1869.

8° 155 pp.

Letter to the Secretary, pp. 3-5.

Geological report, by F. V. Hayden, pp. 7-99.

Mines and minerals of Colorado [and New Mexico], by Persifer Frazer, jr., pp. 101-130.

Agriculture of Colorado, by Cyrus Thomas, pp. 131-155.

[NOTE.—Reprinted in 1873 in First, Second, and Third Annual Reports of the Geological Survey of the Territories (see next entry).]

First, Second, and Third Annual Reports of the United States Geological Survey of the Territories for the years 1867, 1868, and 1869, under the Department of the Interior. Washington: Government Printing Office. 1873.

8°. 261 pp., 1 l.

Prefatory note, by F. V. Hayden, p. 3.

First Annual Report of the United States Geological Survey of the Territories, embracing Nebraska, by F. V. Hayden, U. S. geologist. Conducted under the authority of the Commissioner of the General Land Office. 1867. pp. 5-64.

[NOTE.—Reprinted from the "Report of the Commissioner of the General Land Office for the year 1867," pp. 124-177.]

Second Annual Report of the United States Geological Survey of the Territories, embracing Wyoming, by F. V. Hayden, U. S. geologist. Conducted under the authority of the Commissioner of the General Land Office. 1868. pp. 65-102.

[NOTE.—Reprinted from the "Report of the Commissioner of the General Land Office for the year 1868," pp. 220-255.]

Report of F. V. Hayden on the geography of the Missouri Valley, pp. 67-76.  
Geological explorations in Wyoming Territory [by F. V. Hayden], pp. 76-102.

Third Annual Report of the United States Geological Survey of the Territories, embracing Colorado and New Mexico. Conducted under the authority of the Secretary of the Interior, by F. V. Hayden, U. S. geologist. pp. 103-251.

[NOTE.—Reprint of "Preliminary Field Report of the United States Geological Survey of Colorado and New Mexico."]

Letter to the Secretary, pp. 105-107.

Geological report, by F. V. Hayden, pp. 109-199.

Mines and minerals of Colorado [and New Mexico], by Persifer Frazer, jr., pp. 201-228.

Agriculture of Colorado, by Cyrus Thomas, pp. 229-251.

Index, pp. 253-261.

Table of contents.

1870.

[Fourth Annual] Preliminary Report of the United States Geological Survey of Wyoming and portions of contiguous Territories (being a second annual report of progress), conducted under the authority of



the Secretary of the Interior, by F. V. Hayden, United States geologist. Washington: Government Printing Office. 1871.

[NOTE.—Though called in the title a Second Annual Report, this is really the Fourth Annual Report, as the informal reports for 1867 and 1868 were considered the first and second of the series. There is another edition of this report, exactly identical, but with the date 1872.]

8°. 511 pp.

Letter to the Secretary, pp. 3–8.

Part I. Report of F. V. Hayden, pp. 9–81.

Part II. Geology of the Missouri Valley [by F. V. Hayden], pp. 83–188.

Part III. Report of Professor Cyrus Thomas, pp. 189–284.

Agriculture [in Wyoming and adjacent territory], pp. 189–264.

List and description of new species of Orthoptera, by Prof. Cyrus Thomas, pp. 265–284.

Part IV. Special reports, pp. 285–458.

I. Preliminary paleontological report, consisting of lists of fossils, with descriptions of some new types, etc., by F. B. Meek, pp. 287–318.

II. On the Tertiary coals of the West, by Jas. T. Hodge, geologist, pp. 318–329.

III. The ancient lakes of western America: Their deposits and drainage, by J. S. Newberry, LL. D., pp. 329–339.

IV. Report on the vertebrate fossils of the Tertiary formations of the West, by Prof. Joseph Leidy, pp. 340–370.

V. On the fossil plants of the Cretaceous and Tertiary formations of Kansas and Nebraska, by L. Lesquereux, pp. 370–385.

VI. On the fossil reptiles and fishes of the Cretaceous rocks of Kansas, by Prof. E. D. Cope, pp. 385–424.

VII. On the fishes of the Tertiary shales of Green River, Wyoming Territory, by Professor Edward D. Cope, pp. 425–432.

VIII. Recent reptiles and fishes. Report on the reptiles and fishes obtained by the naturalists of the expedition, by E. D. Cope, A. M., pp. 432–442.

IX. Material resources. Report on the industrial resources of western Kansas and eastern Colorado, by R. S. Elliott, pp. 442–458.

Part V. Catalogues, pp. 459–487.

I. Mammals and birds. A list of mammals and birds collected in Wyoming Territory, by Mr. H. D. Smith and Mr. James Stevenson, during the expedition of 1870, by James Stevenson, pp. 461–467.

II. Report on Mollusca, by S. R. Roberts, recorder conchological section, Academy Natural Sciences, Philadelphia, pp. 467–469.

III. Coleoptera. A list of Coleoptera collected by C. Thomas, in eastern Colorado and northeastern New Mexico, during the survey of 1869, by Dr. G. H. Horn, pp. 469–470.

IV. Hemiptera. A list of Hemiptera collected in eastern Colorado and northeastern New Mexico, by C. Thomas, during the expedition of 1869, by P. R. Uhler, Esq., pp. 471–472.

V. Catalogue of plants, by Thomas C. Porter, Lafayette College, Easton, Pennsylvania, pp. 472–483.

VI. Catalogue of plants. A list of plants collected by C. Thomas, in eastern Colorado and northeastern New Mexico, during the survey of 1869, by Dr. C. C. Parry, pp. 484–487.

Appendix. Meteorology, etc., by Mr. J. W. Beaman, pp. 488–501.

Index, pp. 503–511.

1871.

[Fifth Annual] Preliminary Report of the United States Geological Survey of Montana and portions of adjacent Territories; being a fifth annual report of progress. By F. V. Hayden, United States geologist. Conducted under authority of the Secretary of the Interior. Washington: Government Printing Office. 1872.

[NOTE.—This volume was also issued in quarto, only 30 copies being printed. The only annual issued in quarto.]

8°. vi, 3-538 pp., 2 l., 5 maps, 2 pls.

Letter to the Secretary, pp. 3-9.

Part I. Report of F. V. Hayden, pp. 11-204, 5 maps.

Part II. Agricultural resources of the Territories, by Professor Cyrus Thomas, pp. 205-279.

[Irrigation methods in Santa Clara Valley, California.] Letter of Professor G. N. Allen, pp. 269-271.

Short descriptions of some of the valleys of Nevada, by Mr. Haskell, of Reno, Nevada, pp. 271-273.

Experiments in cultivation on the plains along the line of the Kansas Pacific Railway, by R. S. Elliott, pp. 274-279.

Part III. Paleontology, pp. 281-377.

Fossil flora, by Leo Lesquereux, pp. 283.

I. Enumeration and description of the fossil plants from the specimens obtained in the explorations of Dr. F. V. Hayden, 1870 and 1871, pp. 283-303.

II. Remarks on the Cretaceous species described above, pp. 303-304.

III. Tertiary flora of North America, pp. 304-318.

On the geology and paleontology of the Cretaceous strata of Kansas, by Edward D. Cope, A. M., pp. 318-349.

On the vertebrate fossils of the Wahsatch strata, by Edward D. Cope, A. M., pp. 350-353.

On the fossil vertebrates of the early Tertiary formation of Wyoming, by Prof. Joseph Leidy, pp. 353-372.

Preliminary list of the fossils collected by Dr. Hayden's exploring expedition of 1871, in Utah and Wyoming Territories, with descriptions of a few new species, by F. B. Meek, pp. 373-377.

Part IV. Zoology and botany, pp. 379-498.

Notice of some worms collected during Professor Hayden's expedition to the Yellowstone River in the summer of 1871, by Prof. Joseph Leidy, of Philadelphia, pp. 381-382.

Coleoptera, by George H. Horn, M. D., Philadelphia, pp. 382-392.

Notices of the Hemiptera of the western Territories of the United States, chiefly from the surveys of Dr. F. V. Hayden, by P. R. Uhler, pp. 392-423.

Notes on the saltatorial Orthoptera of the Rocky Mountain regions, by Professor Cyrus Thomas, pp. 423-466, pls. i-ii.

List of species of butterflies collected by Campbell Carrington and William B. Logan, of the expedition, in 1871, by W. H. Edwards, pp. 466-467.

Report on the Recent reptiles and fishes of the survey, collected by Campbell Carrington and C. M. Dawes, by Edward D. Cope, A. M., pp. 467-476.

~ Catalogue of plants, by Prof. Thomas C. Porter, pp. 477-498.

Part V. Meteorology, by J. W. Beaman, pp. 499-524.

Index, pp. 525-538.

Supplement to the Fifth Annual Report of the United States Geological Survey of the Territories for 1871. F. V. Hayden, United States geologist in charge. Report on fossil flora. By Leo Lesquereux. Conducted under authority of the Secretary of the Interior. Washington: Government Printing Office. 1872.

8°. 22 pp.

An enumeration with descriptions of some Tertiary fossil plants, from specimens procured in the explorations of Dr. F. V. Hayden, in 1870, by Leo Lesquereux, pp. 5-22.

1872.

Sixth Annual Report of the United States Geological Survey of the Territories, embracing portions of Montana, Idaho, Wyoming, and Utah, being a report of progress of the explorations for the year 1872. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1873.

8° xi, 844 pp., 12 pls., 5 maps, 4 leaves containing figs. 10, 14, 15, 34.

Letter to the Secretary, 1-10 pp.

✓ Part I. 11-313 pp., 5 maps, 4 leaves containing figs. 10, 14, 15, 34.

Report of F. V. Hayden [on explorations in Yellowstone Valley and adjacent region], pp. 11-85, 3 maps, 3 leaves containing figs. 10, 14, 15.

Report of N. P. Langford on the resources of Snake River Valley, pp. 86-91.

Means of access to the Yellowstone National Park by railroad, by R. Hering, pp. 92-95.

Report of A. C. Peale, M. D., [on explorations in Colorado, Utah, and Wyoming], pp. 97-187, 1 leaf containing fig. 34.

Report of Frank H. Bradley, geologist of the Snake River division, pp. 189-271, 2 maps.

Physical geography and agricultural resources of Minnesota, Dakota, and Nebraska, by Cyrus Thomas, Ph. D., pp. 273-313.

✓ Part II. Special reports on geology and paleontology, pp. 315-658, pls. 1-12.

Lignitic formation and fossil flora, by Leo Lesquereux, pp. 317-427.

Preliminary paleontological report, consisting of lists and descriptions of fossils, with remarks on the ages of the rocks in which they were found, etc., by F. B. Meek, paleontologist, pp. 429-518.

Report of a geological reconnaissance along the Union Pacific Railroad, by H. M. Bannister, M. D., pp. 519-541.

On the extinct vertebrata of the Eocene of Wyoming, observed by the expedition of 1872, with notes on the geology, by Edward D. Cope, A. M., pp. 543-649, pls. 1-6.

? On remains of primitive art in the Bridger Basin of southern Wyoming, by  
? Professor Joseph Leidy, pp. 651-654, pls. 7-12.

? Ancient mounds of Dakota, by C. Thomas, Ph. D., pp. 655-658.

Part III. Special reports on zoology and botany, pp. 659-792.

Report on the mammals and birds of the expedition, by C. H. Merriam, pp. 661-715.

Coleoptera, by George H. Horn, M. D., Philadelphia, p. 717.

Notes on Orthoptera, by Cyrus Thomas, Ph. D., pp. 719-725.

Odonata from the Yellowstone, by Dr. H. Hagen, pp. 727-729.

- Descriptions of new species of Mallophaga collected by C. H. Merriam while in the Government geological survey of the Rocky Mountains, Professor F. V. Hayden, United States geologist, by A. S. Packard, jr., M. D., pp. 731-734.
- Description of new parasitic worms found in the brain and other parts of birds, by A. S. Packard, jr., M. D., pp. 735-737.
- Description of new insects, by A. S. Packard, jr., M. D., pp. 739-741.
- Insects inhabiting Great Salt Lake and other saline or alkaline lakes in the West, by A. S. Packard, jr., M. D., pp. 744-746.
- Botany, by John M. Coulter, pp. 747-792.
- Part IV. Report on astronomy and hypsometry, pp. 793-817.
- Report on astronomy and hypsometry, by Henry Gannett, M. E., pp. 795-807.
- Notes on the climate of Montana, by Mr. Granville Stuart, of Deer Lodge, Montana Territory, pp. 809-817.
- Index, pp. 819-844.

1873.

[Seventh] Annual Report of the United States Geological and Geographical Survey of the Territories, embracing Colorado, being a report of progress of the exploration for the year 1873, by F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1874.

8° xii, 718 pp., 54 pls. and maps, 44 leaves containing figures and other illustrations.

Letter to the Secretary, pp. 1-14.

Part I. Geology, mineralogy, and mining industry, pp. 15-361.

Report of F. V. Hayden, United States geologist, [on geology of central portion of Colorado], pp. 17-82, figs. 1-18, sections i-iv.

Report of Arch. R. Marvinne, assistant geologist directing the Middle Park division, pp. 83-192, pls. i-iii, figs. 1-17 (fig. 4 misnamed pl. 4; fig. 6 misnamed fig. 4; fig. 17 misnamed fig. 16).

Report of A. C. Peale, M. D., geologist of the South Park division, pp. 193-273, pls. 1-20.

Report of F. M. Endlich, S. N. D. [geologist of the San Luis division], pp. 275-361, pls. A, B, viii, x, xii-xv, figs. 1-13; illustrations A and B, and 3 not numbered.

Part II. Special reports on paleontology, pp. 365-533, pls. i-viii.

The Lignitic formation and its fossil flora, by Leo Lesquereux, pp. 365-425.

Report on the vertebrate paleontology of Colorado, by Edward D. Cope, A. M., pp. 427-533, pls. 1-8.

Part III. Zoology, pp. 535-623, pls. i-vi.

Report of Lieut. W. L. Carpenter on the collections made by him in 1873, while connected with the United States Geological Survey, pp. 537-538.

Destruction of pine-timber in the Rocky Mountains, by Lieut. W. L. Carpenter, U. S. A., pp. 538-539.

Report on the alpine insect-fauna of Colorado, by Lieut. W. L. Carpenter, U. S. A., pp. 539-542.

List of species of butterflies collected by Lieut. W. L. Carpenter, U. S. A., for the United States geological survey of Colorado, 1873, by W. H. Edwards, p. 542.

- On the geographical distribution of the moths of Colorado, by A. S. Packard, jr., M. D., pp. 543-560.
- Report on the Diptera collected by Lieut. W. L. Carpenter in Colorado during the summer of 1873, by C. R. Osten Sacken, pp. 561-566.
- Notice on the galls collected by Lieut. W. L. Carpenter, by C. R. Osten Sacken, p. 567.
- List of species of Coleoptera, collected by Lieut. W. L. Carpenter, United States Army, for the United States geological survey of Colorado, 1873, pp. 567-571.
- Report on the Pseudo-Neuroptera and Neuroptera collected by Lieut. W. L. Carpenter in 1873 in Colorado, by Dr. H. A. Hagen, pp. 571-606.
- Report on the myriopods collected by Lieut. W. L. Carpenter, in 1873, in Colorado, by A. S. Packard, jr., M. D., p. 607.
- Report on the amphipod Crustaceans, by S. I. Smith, pp. 608-611, pls. i-ii.
- Description of a lernæan Crustacean (*Achthernes carpenteri*) obtained by Lieut. W. L. Carpenter, in 1873, in Colorado, by A. S. Packard, jr., M. D., p. 612.
- Synopsis of the fresh-water phyllopod Crustacea of North America, by A. S. Packard, jr., M. D., pp. 613-622, pls. i-iv.
- List of leeches collected by Hayden's expedition, 1873, by A. E. Verrill, p. 623.
- List of terrestrial mollusks collected by Lieut. W. L. Carpenter, U. S. A., for the United States geological survey of Colorado, 1873, by William G. Binney, p. 623.
- Part IV. Geography and topography, pp. 625-681, 3 maps.
- Sketch of the methods of survey in the geographical department, by James T. Gardner, geographer, pp. 627-628, 1 map.
- The elevations of certain datum-points on the Great Lakes and rivers and in the Rocky Mountains, by James T. Gardner, geographer, pp. 629-659, 1 map.
- Topographical report of Middle Park division, 1873, by S. B. Ladd, M. E., pp. 661-669.
- Geographical report of Henry Gannett, M. E., [on central Colorado], pp. 670-681, 1 map.
- Appendix, pp. 683-691, 1 map.
- Gold Hill mining region, its position and general geology, by Arch. R. Marvin, pp. 685-687, 1 map.
- The telluride ores of the Red Cloud and Cold Spring mines, Gold Hill, by B. Silliman, pp. 689-691.
- Index, pp. 693-718.

1874.

[Eighth] Annual Report of the United States Geological and Geographical Survey of the Territories, embracing Colorado and parts of adjacent Territories; being a report of progress of the exploration for the year 1874. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1876.

8°. ix, 515 pp. 82 leaves containing illustrations, 8 leaves containing plate descriptions.

Letter to the Secretary, pp. 1-17.



[Geology, mineralogy and mining industry], pp. 19-269.

[Report of F. V. Hayden on Lignitic group, geology of eastern base of Front Range, and geography and geology of Elk Mountains], pp. 19-71; 34 leaves.

Report on the geology of the northwestern portion of the Elk Range, by W. H. Holmes, pp. 59-71, 12 leaves containing illustrations.

Report of A. C. Peale, M. D., geologist of Middle division, pp. 73-180, 20 leaves containing illustrations.

Report of F. M. Endlich, S. N. D., 1874 [geologist of San Juan division], pp. 181-240, figs. 1-3, sections i-viii.

Report of Samuel Aughey, Ph. D., The superficial deposits of Nebraska, pp. 241-269.

Paleontology. Report of Leo Lesquereux, pp. 271-365.

On the Tertiary flora of the North American lignitic, considered as evidence of the age of the formation, pp. 275-315.

A review of the Cretaceous flora of North America, pp. 316-365, pls. i-viii.

[Archæology], pp. 367-381.

-Report of W. H. Jackson on ancient ruins in southwestern Colorado, pp. 367-381, pls. i-viii.

Zoology. Report of Ernest Ingersoll on the natural history of the United States Geological and Geographical Survey of the Territories, 1874, pp. 383-410.

Topography and geography. Reports of Henry Gannett, S. B. Ladd, and A. D. Wilson, pp. 411-496, 1 map.

Geographical report of Henry Gannett, M. E., topographer directing Middle division, pp. 413-433, 1 map.

Topographical report of Northern division, 1874; by Story B. Ladd, M. E., pp. 435-442.

Means of communication between Denver and San Juan mines, by A. D. Wilson, topographer directing, pp. 443-449.

Report on the topography of the San Juan country, by Franklin Rhoda, assistant topographer, pp. 451-496.

Index, pp. 497-515.

1875.

✓ Ninth Annual Report of the United States Geological and Geographical Survey of the Territories, embracing Colorado and parts of adjacent Territories; being a report of progress of the exploration for the year 1875. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1877.

8°. vii, 827 pp., 10 ll. unpagcd, 75 pls. and maps.

Report of F. V. Hayden, United States geologist in charge. Letter to the Secretary. pp. 1-28.

Part I. Geology, pp. 29-294, pls. i-xxii, xxiv, xxvi-xlix.

Report of A. C. Peale, M. D., geologist of the Grand River division, 1875, on the Grand River district, pp. 31-101, pls. i-viii.

Report of F. M. Endlich, S. N. D., geologist of the Southeastern division, 1875, on the Southeastern district, pp. 103-235, pls. ix-xxii, xxiv, xxvi-xxxiii.

Report of William H. Holmes, geologist of the San Juan division, 1875, on the San Juan district, pp. 237-276, pls. xxxiv-xlix.

Geological report of B. F. Mudge. Notes on the Tertiary and Cretaceous periods of Kansas, pp. 277-294.

Part II. Geography and topography. pp. 295-440, pls. l-lxi, 2 maps.

Report of A. D. Wilson, topographer of the Southeastern division, 1875, on the Southeastern district, pp. 297-333.

Topographical report on the Southeastern district, by Franklin Rhoda, assistant topographer, pp. 302-333, pl. 1.

Report of Henry Gannett, M. E., topographer of the Grand River division, 1875, on the Grand River district, pp. 335-350, pls. li-lii.

Report of George B. Chittenden, topographer of the San Juan division, 1875, on the San Juan district, pp. 351-368, pls. liii-lvi.

Report of Gustavus R. Bechler, topographer, 1873, '74, '75, on the Middle and South Parks, Colorado, and adjacent country, pp. 369-440, pls. lvii-lxi, 2 maps.

Part III. Zoology, pp. 441-815, pls. lxii-lxx, 5 maps.

History of the American bison, *Bison americanus*, by J. A. Allen, pp. 443-587, 1 l. errata.

Report on the Rocky Mountain locust and other insects now injuring or likely to injure field and garden crops in the western States and Territories, by A. S. Packard, jr., M. D., pp. 589-809, 9 unpagcd leaves, pls. lxii-lxx.

Appendix.

List of Coleoptera collected in 1875, in Colorado and Utah, by A. S. Packard, jr., M. D., pp. 811-815.

Index, pp. 817-827.

1876.

✓ Tenth Annual Report of the United States Geological and Geographical Survey of the Territories, embracing Colorado and parts of adjacent Territories, being a report of progress of the exploration for the year 1876. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1878.

8°. xxix, 546 pp., 79 pls., 3 maps.

Letter to the Secretary, pp. xiii-xxix.

Part I. Geology, pp. 1-272, pls. i-xvi.

Report of C. A. White, M. D., on the geology of a portion of northwestern Colorado, pp. 3-60, pls. i-ii.

Report of F. M. Endlich, S. N. D., geologist of the White River division, on the geology of the White River district, pp. 61-131, pls. iii-vii.

Mineralogical report of F. M. Endlich, S. N. D.: Catalogue of minerals found in Colorado, pp. 133-159.

Report of A. C. Peale, M. D., geologist of the Grand River division, 1876, on the Grand River district, pp. 161-185, pls. viii-xii.

Report of William H. Holmes, on the geology of the Sierra Abajo and West San Miguel Mountains, pp. 187-195, pls. xiii-xvi.

Report of F. M. Endlich, S. N. D., on the erupted rocks of Colorado, pp. 197-272.

Part II. Topography, pp. 273-378, pls. xvii-xxix.

Report of A. D. Wilson, chief topographer, on the primary triangulation of Colorado, pp. 275-309, pls. xvii-xxi.

Report of Henry Gannett, M. E., on the arable and pasture lands of Colorado, pp. 311-347.

Bull. 222—04—2

Report of George B. Chittenden, C. E., topographer of the White River division, 1876, on the White River district, pp. 349-357.

Report of Gustavus R. Bechler, topographer of the Yampa division, 1876, on the Yampa River district, pp. 359-378, pls. xxii-xxix.

Part III. Archæology and ethnology, pp. 379-478, pls. xxx-lxxix.

- Report of William H. Holmes on the ancient ruins of southwestern Colorado, examined during the summers of 1875 and 1876, pp. 381-408, pls. xxx-xlvi.

- Report of William H. Jackson on the ancient ruins examined in 1875 and 1877, pp. 409-450, pls. xlvii-lxxiv.

Report of W. J. Hoffman, M. D., on the Chaco cranium, pp. 451-457, pls. lxxv-lxxvi.

Report of W. J. Hoffman, M. D.: Miscellaneous ethnographic observations on Indians inhabiting Nevada, California, and Arizona, pp. 459-478, pls. lxxvii-lxxix.

Part IV. Paleontology and zoology, pp. 479-531.

Report of Leo Lesquereux: Remarks on specimens of Cretaceous and Tertiary plants secured by the Survey in 1877, with a list of the species hitherto described, pp. 481-520.

Report of A. S. Packard, jr.: Insects affecting the cranberry, with remarks on other injurious insects, pp. 521-531.

Index, pp. 533-546.

[Geologic, economic, and drainage maps of Colorado west of one hundred and second meridian, at end.]

1877.

Eleventh Annual Report of United States Geological and Geographical Survey of the Territories embracing Idaho and Wyoming, being a report of progress of the exploration for the year 1877. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1879.

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Letter to the Secretary, pp. ix-xxviii.

Part I. Geology and paleontology, pp. 1-646, pls. i-vi, 1-10, vii-lxvi, lxvii-lxxv, lxxv a, lxxvi.

Report of F. M. Endlich, S. N. D., on the geology of the Sweetwater district, pp. 3-158, pls. i-vi.

Report of C. A. White, M. D., on the paleontological field work for the season of 1877, pp. 159-272.

Contributions to invertebrate paleontology, No. 1: Cretaceous fossils of the western States and Territories, by C. A. White, M. D., pp. 273-319, pls. 1-10.

Report of Orestes St. John, geologist of the Teton division, on the geological field work of the Teton division, pp. 321-508, pls. vii-xlvi.

Report of A. C. Peale, M. D., geologist of the Green River division, on the geology of the Green River district, pp. 509-646, pls. xlvii-lxvi, lxvii-lxxv, lxxv a, lxxvi.

Part II. Topography, pp. 647-710, 1 map.

Report of A. D. Wilson, chief topographer, on the primary triangulation of 1877 and 1878, pp. 649-671, 1 map.

Report of Henry Gannett, M. E., topographer, pp. 673-710.

Index, pp. 711-720.

1878.

Twelfth Annual Report of the United States Geological and Geographical Survey of the Territories: A report of progress of the exploration in Wyoming and Idaho for the year 1878. In two parts. Part I [Part II]. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1883.

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Part I. Geology, paleontology, and zoology, xviii, 809 pp., 32 ll., 155 pls. and maps.

Letter to the Secretary, pp. xiii-xviii.

Part [Section] I. Geology and paleontology, pp. 1-293, 32 ll., pls. 11-42, i-xlix, 2 maps, 7 unnumbered illustrations.

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Contributions to invertebrate paleontology, No. 3: Certain Tertiary Mollusca from Colorado, Utah, and Wyoming, by C. A. White, M. D., pp. 41-48, pl. 19.

Contributions to invertebrate paleontology No. 4: Fossils of the Laramie group, by C. A. White, M. D., pp. 49-103, pls. 20-30.

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Contributions to invertebrate paleontology No. 6; Certain Carboniferous fossils from the western States and Territories, by C. A. White, M. D., pp. 119-141, pls. 33-36.

Contributions to invertebrate paleontology No. 7; Jurassic fossils from the Western Territories, by C. A. White, M. D., pp. 143-153, pls. 37-38.

Contributions to invertebrate paleontology No. 8; Fossils from the Carboniferous rocks of the Interior States, by C. A. White, M. D., pp. 155-171, pls. 39-42.

Report of Orestes St. John, on the geology of the Wind River district, pp. 173-269, pls. i-xlix, 1 map, and 6 unnumbered illustrations.

The Tertiary Lake basin at Florissant, Colo., between South and Hayden parks, by Samuel H. Scudder, pp. 271-293, map.

Section II. Zoology, pp. 295-806, pls. i-xxxix, i-xxiv, 1 map, 1 illustration unnumbered.

A monograph of the phyllopod Crustacea of North America, with remarks on the order Phyllocarida, by A. S. Packard, jr., pp. 295-592, pls. i-xxxix, 1 map.

Appendix A.—On *Artemia fertilis* Verrill, from Great Salt Lake, Utah Territory, by Prof. C. Th. von Siebold, of Munich. Translated by Dr. Phil. Carl F. Gissler, of Providence, R. I., pp. 459-463.

B.—Prof. Carl Theodor von Siebold on parthenogenesis in *Artemia salina*. Abstract by Dr. C. F. Gissler, pp. 463-466.

C.—On the relation of *Artemia salina* Milne-Edwards to *Artemia muehlhauseni* Milne-Edwards and to the genus *Branchipus* Schaefer, by W. J. Schmankeiwitsch, pp. 466-473.

D.—Contribution to a knowledge of the influence of external conditions of life upon the organization of animals, by Wladimir Schmankewitsch, pp. 473-514.

Osteology of *Speotyto cunicularia hypogaea*, by R. W. Shufeldt, M. D., captain, Medical Department, United States Army, pp. 593-626, pls. i-iii.

Osteology of *Eremophila alpestris*, by R. W. Shufeldt, M. D., captain, Medical Department, United States Army, pp. 627-652, pl. iv.

Osteology of the North American Tetraonidæ, by R. W. Shufeldt, M. D., captain, Medical Department, United States Army, pp. 653-718, pls. v-xiii.

Osteology of *Lanius ludovicianus excubitorides*, by R. W. Shufeldt, M. D., captain, Medical Department, United States Army, pp. 719-725, pl. xiv.

Osteology of the Cathartidæ, by R. W. Shufeldt, M. D., captain, Medical Department, United States Army, pp. 727-806, pls. xv-xxiv, 1 unnumbered illustration.

Index, pp. 807-809.

Part II. Yellowstone National Park. xxv, 503 pp., 2 ll., 151 pls. and other illustrations.

Letter to the Secretary, pp. xvii-xxiv.

Section I. Geology, pp. xxv, 1-62, 2 ll., pls. A, B, i-xxxii, and map.

Report on the geology of the Yellowstone National Park, by W. H. Holmes, pp. 1-62, pls. A, B, i-xxxii, and map.

Section II. Thermal springs, pp. 63-454, pls. C, D, i, ia, ii-iv, v-vd, vi-vid, vii-xi, xia, xii-xiii, xiiia, xiv, xiva, xv-xviii, xix, xixa, xx-xxxii, xxxii a, xxxiii, xxxiii a, xxxiv-xl, xla, xl b, xli, xli a, xlii-xlv, figs. 1-32, 11 maps.

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Index, pp. 491-503.

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Department of the Interior. Report of the United States Geological Survey of the Territories. F. V. Hayden, United States geologist-in-charge. In five volumes<sup>a</sup> [Volume II-III, V-XIII] Washington: Government Printing Office. 1873 [-1890]

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III. The vertebrata of the Tertiary formations of the West. Book I.<sup>b</sup> By Edward D. Cope, member of the National Academy of Sciences. 1883. xxxiv, 1009 pp., 136 ll., 134 pls.

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- V. Zoology and Botany. Part I.<sup>a</sup> Synopsis of the Acrididæ of North America, by Cyrus Thomas, Ph. D. 1873. x, 262 pp., 1 pl.
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Index. 475-499 pp.

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List of the Orthoptera collected by Dr. A. S. Packard, in Colorado and the neighboring Territories, during the summer of 1875, by Samuel H. Scudder, pp. 261-267.

Notice of a small collection of butterflies, made by Dr. A. S. Packard, in Colorado and Utah, in 1875, by Samuel H. Scudder, pp. 269-270.

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Index. 379-392 pp.

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— Art. III. Researches in the kjökkenmöddings and graves of a former population of the Santa Barbara Islands and the adjacent mainland, by Paul Schumacher, pp. 37-56, pls. 9-22.

— Art. IV. The Twana Indians of the Skokomish Reservation in Washington Territory, by Rev. M. Eells, missionary among these Indians, pp. 57-114, pls. 23-25.

Art. V. Notes on a collection of noctuid moths made in Colorado in 1875, by Dr. A. S. Packard, jr., by Aug. R. Grote, pp. 115-120.

Art. VI. The *Tineina* of Colorado, by V. T. Chambers, pp. 121-142.

Art. VII. Notes on a collection of tineid moths made in Colorado in 1875 by A. S. Packard, jr., M. D., by V. T. Chambers, pp. 143-145.

Art. VIII. On the distribution of *Tineina* in Colorado, by V. T. Chambers, pp. 147-150.

Art. IX. New Entomostraca from Colorado, by V. T. Chambers, pp. 151-155.

Art. X. On a new cave fauna in Utah, by A. S. Packard, jr., M. D., pp. 157-169.

Art. XI. Descriptions of new phyllopod Crustacea from the West, by A. S. Packard, jr., M. D., pp. 171-179.

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- Art. XV. Descriptions of the Aranææ collected in Colorado in 1875 by A. S. Packard, jr., M. D., by T. Thorell, Ph. D., junior professor of zoology in the University of Upsala, Sweden, pp. 477-529.
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- Art. XIX. Report on the geology of the region of the Judith River, Montana, and on vertebrate fossils obtained on or near the Missouri River, by E. D. Cope, pp. 565-597, pls. 30-34.
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- Art. XXIV. Paleontological papers No. 5.—Remarks on the paleontological characteristics of the Cenozoic and Mesozoic groups as developed in the Green River region, by C. A. White, M. D., pp. 625-629.
- Art. XXV. Precursory notes on American insectivorous mammals, with descriptions of new species, by Elliott Coues, captain and assistant surgeon, U. S. A., secretary and naturalist of the survey, pp. 631-653.
- Art. XXVI. Notes on the ornithology of the region about the source of the Red River of Texas, from observations made during the exploration conducted by Lieut. E. H. Ruffner, Corps of Engineers, U. S. A., by C. A. H. McCauley, lieutenant, Third United States Artillery, annotated by Dr. Elliott Coues, U. S. A., pp. 655-695.
- Art. XXVII. Catalogue of the land and fresh-water shells of Nebraska, by Samuel Aughey, Ph. D., pp. 697-704.
- Art. XXVIII. Notes on the geographical work of the United States Geological and Geographical Survey of the Territories, by A. D. Wilson, chief topographer, pp. 705-737, pls. 35-39, 1 map.

No. 4. August 15, 1877. 739-856 pp., 1 l.

Art. XXIX. The first discovered traces of fossil insects in the American Tertiaries, by Samuel H. Scudder, pp. 741-762.

Art. XXX. Description of two species of Carabidæ found in the interglacial deposits of Scarboro Heights, near Toronto, Canada, by Samuel H. Scudder, pp. 763-764.

Art. XXXI. Report upon the insects collected by P. R. Uhler during the explorations of 1875, including monographs of the families Cydnidæ and Saldæ and the Hemiptera collected by A. S. Packard, jr., M. D., by P. R. Uhler, pp. 765-801. [Continued from p. 475.]

Art. XXXII. Description of *Cambarus couesi*, a new species of crawfish from Dakota, by Thos. H. Streets, M. D., U. S. N., pp. 803-804.

Art. XXXIII. On a carnivorous dinosaurian from the Dakota beds of Colorado, by E. D. Cope, pp. 805-806.

Art. XXXIV. A contribution to the knowledge of the ichthyological fauna of the Green River shales, by E. D. Cope, pp. 807-819.

Art. XXXV. On the genus *Erisichte*, by E. D. Cope, pp. 821-823.

Index. 825-856 pp.

Department of the Interior. Bulletin of the United States Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. 1878. Volume IV. Washington: Government Printing Office. 1878.

8°. vii, 908 pp., 8 ll., 1 pl.

No. 1. February 5, 1878. 1-311 pp., 2 ll.

Art. I. Notes on the ornithology of the lower Rio Grande of Texas, from observations made during the season of 1877, by George B. Sennett, of Erie, Pa., edited, with annotations, by Dr. Elliott Coues, U. S. A., pp. 1-66.

Art. II. Descriptions of fishes from the Cretaceous and Tertiary deposits west of the Mississippi River, by E. D. Cope, pp. 67-77.

Art. III. Descriptions of new *Tineina* from Texas, and others from more northern localities, by V. T. Chambers, pp. 79-106.

Art. IV. *Tineina* and their food plants, by V. T. Chambers, pp. 107-123.

Art. V. Index to the described *Tineina* of the United States and Canada, by V. T. Chambers, pp. 125-167.

Art. VI. Descriptions of Noctuidæ, chiefly from California, by A. R. Grote, pp. 169-187.

Art. VII. A synopsis of the North American species of the genus *Alpheus*, by J. S. Kingsley, pp. 189-199.

Art. VIII. Notes on the mammals of Fort Sisseton, Dakota, by C. E. McChesney, M. D., Acting Assistant Surgeon, U. S. A., annotated by Dr. Elliott Coues, U. S. A., pp. 201-218.

Art. IX. Studies of the American Herodiones. Part I. Synopsis of the American genera of Ardeidæ and Ciconiidæ; including description of three new genera and a monograph of the American species of the genus *Ardea*, Linn., by Robert Ridgway, pp. 219-251.

- Art. X. Notice of the butterflies collected by Dr. Edward Palmer in the arid regions of southern Utah and northern Arizona during the summer of 1877, by Samuel H. Scudder, pp. 253-258.
- Art. XI. Notes on the herpetology of Dakota and Montana, by Drs. Elliott Coues and H. C. Yarrow, pp. 259-291.
- Art. XII. On consolidation of the hoofs in the Virginian deer, by Dr. Elliott Coues, U. S. A., pp. 293-294.
- Art. XIII. On a breed of solid-hoofed pigs apparently established in Texas, by Dr. Elliott Coues, U. S. A., pp. 295-297.
- Art. XIV. Professor Owen on the Pythonomorpha, by E. D. Cope, pp. 299-311.
- No. 2. May 3, 1878. 313-543 pp., 2 ll., pl. 1.
- Art. XV. The geographical distribution of the Mammalia, considered in relation to the principal ontological regions of the earth, and the laws that govern the distribution of animal life, by Joel Asaph Allen, pp. 313-377.
- Art. XVI. Descriptions of new extinct vertebrata from the upper Tertiary and Dakota formations, by E. D. Cope, pp. 379-396.
- Art. XVII. Notes on a collection of fishes from the Rio Grande, at Brownsville, Texas, by David S. Jordan, M. D., pp. 397-406. [Continued on p. 663.]
- Art. XVIII. A catalogue of the fishes of the fresh waters of North America, by David S. Jordan, M. D., pp. 405-442.
- Art. XIX. Description of a fossil passerine bird from the insect-bearing shales of Colorado, by J. A. Allen, pp. 443-445, pl. 1.
- Art. XX. The Coleoptera of the alpine regions of the Rocky Mountains, by John L. Le Conte, M. D., pp. 447-480.
- Art. XXI. On the Orthoptera collected by Dr. Elliott Coues, U. S. A., in Dakota and Montana during 1873-74, by Prof. Cyrus Thomas, pp. 481-501.
- Art. XXII. On the Hemiptera collected by Dr. Elliott Coues, U. S. A., in Dakota and Montana during 1873-74, by P. R. Uhler, pp. 503-512.
- Art. XXIII. On the Lepidoptera collected by Dr. Elliott Coues, U. S. A., in Montana, during 1874, by W. H. Edwards, pp. 513-517.
- Art. XXIV. An account of some insects of unusual interest from the Tertiary rocks of Colorado and Wyoming, by Samuel H. Scudder, pp. 519-543.
- No. 3. July 29, 1878. 545-745 pp., 2 ll.
- Art. XXV. Field notes on birds observed in Dakota and Montana along the forty-ninth parallel during the seasons of 1873 and 1874, by Dr. Elliott Coues, U. S. A., late surgeon and naturalist, U. S. Northern Boundary Commission, pp. 545-661.
- Art. XXVI. Notes on a collection of fishes from the Rio Grande, at Brownsville, Texas, continued [from p. 406], by D. S. Jordan, M. D., pp. 663-667.
- Art. XXVII. Preliminary studies on the North American Pyralidæ, by A. R. Grote, pp. 669-705.
- Art. XXVIII. Paleontological papers No. 6: Descriptions of new species of invertebrate fossils from the Laramie group, by C. A. White, M. D., pp. 707-719.

- Art. XXIX. Paleontological papers No. 7: On the distribution of molluscan species in the Laramie group, by C. A. White, M. D., pp. 721-724.
- Art. XXX. On some dark shale recently discovered below the Devonian limestones, at Independence, Iowa; with a notice of its fossils and description of new species, by S. Calvin, professor of geology, State University of Iowa, pp. 725-730.
- Art. XXXI. On the mineralogy of Nevada, by W. J. Hoffman, M. D., pp. 731-745.
- No. 4. December 11, 1878. 747-908 pp., 2 ll.
- Art. XXXII. The fossil insects of the Green River shales, by Samuel H. Scudder, Cambridge, Mass., pp. 747-776.
- Art. XXXIII. Report on the collection of fishes made by Dr. Elliott Coues, U. S. A., in Dakota and Montana during the seasons of 1873 and 1874, by David S. Jordan, M. D., pp. 777-799.
- Art. XXXIV. Catalogue of phanogamous and vascular cryptogamous plants collected during the summers of 1873 and 1874 in Dakota and Montana along the forty-ninth parallel, by Dr. Elliott Coues, U. S. A.: with which are incorporated those collected in the same region at the same times by Mr. George M. Dawson, by Prof. J. W. Chickering, pp. 801-830.
- Art. XXXV. On some striking products of erosion in Colorado, by F. M. Endlich, S. N. D., pp. 831-864.
- Art. XXXVI. Paleontological papers No. 8: Remarks upon the Laramie group, by C. A. White, M. D., pp. 865-876.
- Art. XXXVII. Synonymatic list of American Sciuri, or arboreal squirrels, by J. A. Allen, pp. 877-887.
- Index. 889-908 pp.

Department of the Interior. Bulletin of the United States Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. 1879-80. Volume V. Washington: Government Printing Office. 1880.

8°. vii, 1072 pp., 8 ll., 4 pls.

No. 1. February 28, 1879. 1-152 pp., 4 ll., i-ii pls.

- Art. I. Notes on the Aphididæ of the United States, with descriptions of species occurring west of the Mississippi, by Chas. V. Riley and J. Monell, pp. 1-32, pls. i-ii.
- Art. II. The relations of the horizons of extinct vertebrata of Europe and North America, by E. D. Cope, pp. 33-54.
- Art. III. Observations on the faunæ of the Miocene Tertiaries of Oregon, by E. D. Cope, pp. 55-69.
- Art. IV. Notes on the birds of Fort Sisseton, Dakota Territory, by Chas. E. McChesney, acting assistant surgeon, U. S. A., pp. 71-103.
- Art. V. Paleontological papers No. 9: Fossils of the Jura-Trias of southeastern Idaho, by C. A. White, M. D., pp. 105-117.
- Art. VI. Jura-Trias section of southeastern Idaho and western Wyoming, by A. C. Peale, M. D., pp. 119-123.
- Art. VII. Fossil forests of the volcanic Tertiary formations of the Yellowstone National Park, by W. H. Holmes, pp. 125-132.



- Art. VIII. Paleontological Papers No. 10: Conditions of preservation of invertebrate fossils, by C. A. White, M. D., pp. 133-141.
- Art. IX. Supplement to the bibliography of North American invertebrate paleontology, by C. A. White and H. Alleyne Nicholson, pp. 143-152.
- No. 2. September 6, 1879. 153-330 pp., 2 ll., iii-iv pls.
- Art. X. On the Coatis (genus *Nasua*, Storr), by J. A. Allen, pp. 153-174.
- Art. XI. On the present status of *Passer domesticus* in America, with special reference to the Western States and Territories, by Dr. Elliott Coues, U. S. A., pp. 175-193.
- Art. XII. The Laramie group of western Wyoming and adjacent regions, by A. C. Peale, M. D., pp. 195-200.
- Art. XIII. On Lithophane and new Noctuidæ, by A. R. Grote, pp. 201-208.
- Art. XIV. Paleontological papers No. 11: Remarks upon certain Carboniferous fossils from Colorado, Arizona, Idaho, Utah, and Wyoming, and certain Cretaceous corals from Colorado, together with descriptions of new forms, by C. A. White, M. D., pp. 209-221.
- Art. XV. The so-called Two-Ocean Pass, by F. V. Hayden, pp. 223-225, pls. iii-iv.
- Art. XVI. On the extinct species of Rhinocerotidæ of North America and their allies, by E. D. Cope, pp. 227-237.
- Art. XVII. Second installment of American ornithological bibliography, by Dr. Elliott Coues, U. S. A., pp. 239-330.
- No. 3. November 30, 1879. 331-520 pp., 1 l.
- Art. XVIII. On the species of the genus *Bassaris*, by J. A. Allen, pp. 331-340.
- Art. XIX. The American Bembecidæ: tribe Stizini, by W. H. Patton, pp. 341-347.
- Art. XX. List of a collection of aculeate Hymenoptera made by Mr. S. W. Williston in northwestern Kansas, by W. H. Patton, pp. 349-370.
- Art. XXI. Further notes on the ornithology of the lower Rio Grande of Texas, from observations made during the spring of 1878, by George B. Sennett; edited, with annotations, by Dr. Elliott Coues, U. S. A., pp. 371-440.
- Art. XXII. Additional lists of elevations, by Henry Gannett, pp. 441-470.
- Art. XXIII. Generic arrangement of the bees allied to *Melissodes* and *Anthophora*, by W. H. Patton, pp. 471-479.
- Art. XXIV. Annotated list of the birds of Michigan, by Dr. Morris Gibbs, pp. 481-497.
- Art. XXV. The Coleoptera of the alpine Rocky Mountain regions.—Part II, by John L. Le Conte, M. D., pp. 499-520 [continued from vol. 4, p. 480].
- No. 4. September 30, 1880. 521-1072 pp., 1 l.
- Art. XXVI. Third installment of American ornithological bibliography, by Dr. Elliott Coues, U. S. A., pp. 521-1066.
- Index, pp. 1067-1072.

Department of the Interior. Bulletin of the United States Geological and Geographical Survey of the Territories. F. V. Hayden,

U. S. geologist-in-charge. 1882. Volume VI. Washington: Government Printing Office. 1882.

8°. vi, 598 pp., 10 ll., 14 pls., 2 maps, 3 illustrations.

No. 1. February 11, 1881. 1-202 pp., 6 ll., i-iv pls.

Art. I. The vegetation of the Rocky Mountain region and a comparison with that of other parts of the world, by Asa Gray and Joseph D. Hooker, pp. 1-77.

Art. II. On some new Batrachia and Reptilia from the Permian beds of Texas, by E. D. Cope, pp. 79-82.

Art. III. On a wading bird from the Amyzon shales, by E. D. Cope, pp. 83-85.

Art. IV. Osteology of *Speotyto cunicularia* var. *hypogæa*, by R. W. Shufeldt, Acting Assistant Surgeon, U. S. Army, pp. 87-117, pls. i-ii.

Art. V. Osteology of *Eremophila alpestris*, by R. W. Shufeldt, Acting Assistant Surgeon, U. S. Army, pp. 119-147, pls. iii-iv.

Art. VI. Preliminary list of the North American species of *Agrotis*, with descriptions, by A. R. Grote, pp. 149-164.

Art. VII. On the *Nimravidæ* and *Canidæ* of the Miocene period, by E. D. Cope, pp. 165-181.

Art. VIII. On the vertebrata of the Wind River Eocene beds of Wyoming, by E. D. Cope, pp. 183-202.

No. 2. September 19, 1881. 203-397 pp., 2 ll., v-xiv pls., 2 maps, 3 illustrations.

Art. IX. Annotated list of the birds of Nevada, by W. J. Hoffman, M. D., pp. 203-256, 1 map, 2 illustrations.

Art. X. North American moths, with a preliminary catalogue of species of *Hadena* and *Polia*, by Aug. R. Grote, pp. 257-277.

Art. XI. The Tertiary lake-basin at Florissant, Colorado, between South and Hayden parks, by Samuel H. Scudder, pp. 279-300, 1 map.

Art. XII. Revision of the genus *Sciurus*, by Dr. E. L. Trouessart; translated, with notes, by Dr. Elliott Coues, U. S. Army, pp. 301-307.

Art. XIII. Osteology of the North American *Tetraonidæ*, by R. W. Shufeldt, M. D., First Lieut. Med. Dept., U. S. A., pp. 309-350, pls. v-xiii.

Art. XIV. Osteology of *Lanius ludovicianus excubitorides*, by R. W. Shufeldt, M. D., First Lieut. Med. Dept., U. S. A., pp. 351-359, pl. xiv.

Art. XV. Review of the Rodentia of the Miocene period of North America, by E. D. Cope, N. A. S., pp. 361-386.

Art. XVI. On the *Canidæ* of the Loup Fork epoch, by E. D. Cope, pp. 387-390.

Art. XVII. On a crayfish from the lower Tertiary beds of western Wyoming, by A. S. Packard, jr., pp. 391-397, 1 illustration.

No. 3. August 30, 1882. 399-598 pp., 2 ll.

Art. XVIII. Preliminary list of works and papers relating to the mammalian orders *Cete* and *Sirenia*, by Joel Asaph Allen, pp. 399-562.

Art. XIX. New moths, with partial catalogue of *Noctuæ*, by A. R. Grote, A. M., pp. 563-578.

Art. XX. New moths, principally collected by Mr. Roland Thaxter in Maine, with notes on noxious species and remarks on classification, pp. 579-591.

Index. 593-598 pp.

## MISCELLANEOUS PUBLICATIONS.

Department of the Interior. United States Geological Survey of the Territories. F. V. Hayden, U. S. Geologist in charge. Miscellaneous publications. No. 1[-12]. Washington: Government Printing Office. 1873[-1880].

8°. 15 vols.

1. Lists of elevations in that portion of the United States west of the Mississippi River. [Second edition.<sup>a</sup>] Collated and arranged by Henry Gannett, Assistant. 1873. 47 pp.
1. List of elevations principally in that portion of the United States west of the Mississippi River. Third edition. Collated and arranged by Henry Gannett. 1875. 72, ii pp.
1. List of elevations principally in that portion of the United States west of the Mississippi River. Fourth edition. Collated and arranged by Henry Gannett, M. E. 1877. x, 167 pp., 1 map.
2. Meteorological observations during the year 1872 in Utah, Idaho, and Montana, prepared for publication by Henry Gannett, Assistant. 1873. 120 pp.
3. Birds of the Northwest: A hand-book of the ornithology of the region drained by the Missouri River and its tributaries. By Elliott Coues, captain and assistant surgeon, U. S. Army. 1874. xi, 791 pp.
4. Synopsis of the flora of Colorado, by Thomas C. Porter and John M. Coulter. March 20, 1874. 5 ll., 180 pp.
5. Descriptive catalogue of the photographs of the United States Geological Survey of the Territories for the years 1869 to 1873, inclusive. W. H. Jackson, photographer. 1874. 83 pp.
5. Descriptive catalogue of the photographs of the United States Geological Survey of the Territories for the years 1869 to 1875, inclusive. Second edition. W. H. Jackson, photographer. 1875. 81 pp., 14 illustrations.
6. Meteorological observations made during the year 1873 and the early part of the year 1874 in Colorado and Montana Territories. Prepared for publication by George B. Chittenden. 1874. 57 pp.
7. Ethnography and philology of the Hidatsa Indians, by Washington Matthews, assistant surgeon United States Army. 1877. vi, 239 pp.
8. Fur-bearing animals: A monograph of North American Mustelidæ, in which an account of the wolverine, the martens or sables, the ermine, the mink and various other kinds of weasels, several species of skunks, the badger, the land and sea otters, and numerous exotic allies of these animals, is contributed to the history of North American mammals. By Elliott Coues, captain and assistant surgeon, United States Army, secretary and naturalist of the Survey. Illustrated with sixty figures on twenty plates. 1877. xiv, 348 pp., 20 pls.
9. Descriptive catalogue of photographs of North American Indians, by W. H. Jackson, photographer of the Survey. 1877. vi, 124 pp.
10. Bibliography of North American invertebrate paleontology, being a report upon the publications that have hitherto been made upon the invertebrate paleontology of North America, including the West Indies and Greenland. By C. A. White, M. D., paleontologist of the United States Geological Survey, and H. Alleyne Nicholson, M. D., D. Sc., professor at the University of Saint Andrews, Scotland. 1878. 132 pp.

<sup>a</sup> The first edition of this publication was by Cyrus Thomas, and is catalogued under unclassified publications, p. 32.

11. Birds of the Colorado Valley: A repository of scientific and popular information concerning North American ornithology, by Elliott Coues. *ΗΑΘ ηλδε χελιδών χαλὰς ώρας ἄγουςα*. Part first, Passeres to Laniidæ. Bibliographical Appendix, seventy illustrations. 1878. xvi, 807 pp.
12. History of North American pinnipeds: A monograph of the walruses, sea-lions, sea-bears, and seals of North America, by Joel Asaph Allen, assistant in the Museum of Comparative Zoology, at Cambridge, special collaborator of the Survey. 1880. xvi, 785 pp.

### UNCLASSIFIED PUBLICATIONS.<sup>a</sup>

[1] Forty-second Congress, first session, House of Representatives Ex. Doc. No. 19. Final Report of the United States Geological Survey of Nebraska and portions of the adjacent Territories, made under the direction of the Commissioner of the General Land Office. By F. V. Hayden, United States geologist. March 23, 1871. Ordered to be printed. Washington: Government Printing Office 1872.

8° 264 pp., 11 il., 11 pls., 1 map.

[Part I.] Geology, by F. V. Hayden, pp. 3-79.

Part II. Paleontology, Report on the paleontology of eastern Nebraska, with some remarks on the Carboniferous rocks of that district, by F. B. Meek. pp. 81-245, pls. 1-11.

Part III. Entomology, Notes on the Orthoptera collected by Dr. F. V. Hayden in Nebraska, by Samuel H. Scudder, pp. 247-261.

Index, pp. 263-264.

[2] List of elevations and distances in that portion of the United States west of the Mississippi River. Collated and arranged by Prof. C. Thomas, Asst. U. S. Geol. Surv., under Dr. F. V. Hayden. Washington: Government Printing Office. 1872.

12mo. 31 pp.

[3] Department of the Interior. United States Geological Survey of the Territories. F. V. Hayden, U. S. geologist in charge. Profiles, sections and other illustrations, designed to accompany the final report of the chief geologist of the Survey and sketched under his directions by Henry W. Elliott. Under authority of the Secretary of the Interior. New York. Julius Bien. 1872.

4°. 2 pp., 65 pls.

[4] Department of the Interior. United States Geological Survey of the Territories. F. V. Hayden, U. S. Geologist in charge. Synopsis of new vertebrata from the Tertiary of Colorado, obtained during the summer of 1873. By Professor E. D. Cope. [Extracted from the Seventh Annual Report of the United States Geological Survey of the Territories, F. V. Hayden, U. S. geologist-in-charge.] Washington: Government Printing Office. October, 1873.

8° 19 pp.

NOTE.—Only quasi-extracted from the report of which it ostensibly forms part. It was published in advance of the Seventh Annual Report as a separate pamphlet, and finally appears in that report so much modified as to be in effect a different article.

<sup>a</sup>Numbered arbitrarily for convenience in reference.

[5] Department of the Interior. Catalogue of the publications of the United States Geological Survey of the Territories. F. V. Hayden, geologist-in-charge. Washington: Government Printing Office. 1874.

8°. 20 pp.

[6] Department of the Interior. United States Geological and Geographical Survey of the Territories. F. V. Hayden, in charge. Catalogue of the photographs of the U. S. Geological and Geographical Survey of the Territories. By W. H. Jackson, photographer. Washington: Government Printing Office. 1875.

18mo. 51 pp.

[7] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. The Grotto Geyser of the Yellowstone National Park. With a descriptive note and map, and an illustration by the Albert-type process. [n. d., n. p. Washington: Government Printing Office. 1876.]

Oblong folio. 1 p. l., 2 ll of text, 1 illustration, 1 map.

[8] Department of the Interior. Catalogue of the publications of the U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, geologist in charge. Second edition. (Revised to December 31, 1876.) Washington: Government Printing Office. 1877.

8°. 38 pp.

[9] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, in charge. Bulletin of the United States Entomological Commission. Destruction of the young or unfledged locusts. No. 1. Washington: Government Printing Office. 1877.

8°. 12 pp.

[10] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. Bulletin of the United States Entomological Commission. On the natural history of the Rocky Mountain locust, and on the habits of the young or unfledged insects as they occur in the more fertile country in which they will hatch the present year. No. 2. Washington: Government Printing Office. May, 1877.

8° 15 pp.

[11] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, in charge. Bulletin of the United States Entomological Commission. Destruction of the young or unfledged locusts. No. 1. Second edition. Washington: Government Printing Office. June 1877.

8°. 15 pp.

NOTE.—Somewhat modified from the first edition.

[12] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. Bulletin of the United States Entomological Commission. On the natural history of the Rocky Mountain locust and on the habits of the young or unfledged insects as they occur in the more fertile country in which they will hatch the present year. No. 2. Second edition. Washington: Government Printing Office. June, 1877.

8°. 14 pp.

NOTE.—Somewhat modified from the first edition.

[13] Department of the Interior. Preliminary report of the field work of the U. S. Geological and Geographical Survey of the Territories for the season of 1877. Washington: Government Printing Office. 1877.

8°. 35 pp.

[14] Department of the Interior. United States Geological Survey. F. V. Hayden, U. S. geologist-in-charge. First <sup>a</sup> Annual Report of the United States Entomological Commission for the year 1877 relating to the Rocky Mountain locust and the best methods of preventing its injuries and of guarding against its invasions, in pursuance of an appropriation made by Congress for this purpose. With maps and illustrations. Washington: Government Printing Office. 1878.

8° xvi, 477. 295 pp., 5 ll., 5 pls., 3 maps.

[15] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. Illustrations of Cretaceous and Tertiary plants of the western Territories of the United States. Washington: Government Printing Office. 1878.

4°. 28 ll., 28 pls.

[16] Department of the Interior. United States Geological and Geographical Survey. F. V. Hayden, U. S. geologist-in-charge. Preliminary report of the field work of the U. S. Geological and Geographical Survey of the Territories for the season of 1878. By F. V. Hayden. Washington: Government Printing Office. 1878.

8°. 29 pp.

[17] Department of the Interior. Catalogue of the publications of the U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, United States geologist. Third edition. Revised to December 31, 1878. Washington: Government Printing Office. 1879.

8° 54 pp.

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<sup>a</sup> The Second Annual Report of the Entomological Commission was published by the Department of the Interior; the Third Annual Report was published by the Department of Agriculture.

## MAPS.

## ATLAS OF COLORADO.

[FIRST EDITION.]

[Vignette] Department of the Interior. United States Geological and Geographical Surveys of the Territories. Geological and Geographical Atlas of Colorado and portions of adjacent territory by F. V. Hayden U. S. Geologist in charge. 1877 Julius Bien, Lith.

Folio, 2 ll. (title page and legend), 20 double folio atlas sheets.

Sheets I-IV are triangulation, drainage, land classification, and geologic maps of Colorado west of longitude 102°, on the scale of 12 miles to the inch.

Sheets V-XVI are topographic (contour) and geologic maps of Colorado and adjacent States, between meridians 104° 30' and 109° 30' and parallels 36° 45' and 40° 30', on the scale of 4 miles to the inch.

Sheets XVII and XVIII contain three geologic sections across the State, west of the longitude 104° 30'.

Sheets XIX and XX are panoramic views of the Pikes Peak group, Sawatch Range, central portion of West Elk Mountains, Twin Lakes, southwestern border of the Mesa Verde, San Juan Mountains, and La Plata Mountains.

[SECOND EDITION.]

[Vignette] Department of the Interior. United States Geological and Geographical Surveys of the Territories. Geographical and Geological atlas of Colorado and portions of adjacent territory by F. V. Hayden U. S. Geologist in charge Corrected to date and printed in accordance with an act of Congress approved February 9th, 1881. Julius Bien, Lith.

Folio, 2 ll. (title page and legend), 20 double folio atlas sheets. Contents same as first edition.

SEPARATE MAPS.<sup>a</sup>

## GENERAL.

Map showing primary triangulation of 1877.

General geologic map of area explored from 1869 to 1880. Limiting meridians, 90° and 114°; limiting parallels, 35° and 48°. Scale, 41.03 miles to the inch.

## COLORADO.

Land survey work in Colorado. Scale, 4 miles to the inch. Published for field use of Survey only.

Central Colorado, showing regions surveyed in 1873. Shows drainage only. Scale, 8 miles to the inch. Also in report for 1873.

<sup>a</sup>In the list below are given the maps issued independent of other publications. Maps accompanying the reports are listed in the "Index," pages 134-139.

Map showing primary and secondary triangulation of 1873. Limiting meridians,  $104^{\circ} 15'$  and  $107^{\circ}$ ; limiting parallels,  $38^{\circ}$  and  $40^{\circ} 30'$ . Scale, 8 miles to the inch. Also in report for 1873.

Preliminary map of the San Juan country. Shows drainage only. Limiting meridians,  $106^{\circ} 10'$  and  $108^{\circ}$ ; limiting parallels,  $37^{\circ} 15'$  and  $38^{\circ} 15'$ . Scale, 4 miles to the inch. Also in Bull., vol. I, No. 3, 2d series.

Preliminary map of central Colorado, showing region surveyed in 1873 and 1874. Limiting meridians,  $104^{\circ} 30'$  and  $107^{\circ} 30'$ ; limiting parallels,  $37^{\circ}$  and  $40^{\circ} 30'$ . Also in report for 1874.

Drainage map of Colorado. Portion of State west of one hundred and second meridian. Scale, 12 miles to the inch. Also in Atlas of Colorado.

Economic map of Colorado, showing areas of arable, pasture, timber, desert, coal, and other lands. Portion of State west of one hundred and second meridian. Scale, 12 miles to the inch. Published also in Atlas of Colorado.

General geologic map of Colorado. Portion west of one hundred and second meridian. Scale, 12 miles to the inch. Also in Atlas of Colorado.

#### IDAHO.

Parts of Idaho, Montana, and Wyoming. Limiting meridians,  $109^{\circ}$  and  $114^{\circ}$ ; limiting parallels,  $43^{\circ}$  and  $46^{\circ}$ . Hachure. Scale, 10 miles to the inch.

Sources of Snake River and portions of headwaters of Madison and Yellowstone rivers. Topography shown by brush work. Scale, 5 miles to the inch.

Geologic map on above base.

Drainage map of portions of Wyoming, Idaho, and Utah. Limiting meridians,  $107^{\circ}$  and  $112^{\circ} 30'$ ; limiting parallels,  $42^{\circ} 45'$  and  $44^{\circ}$ . Scale, 8 miles to the inch.

#### MONTANA.

Parts of Idaho, Montana, and Wyoming. Limiting meridians,  $109^{\circ}$  and  $114^{\circ}$ ; limiting parallels,  $43^{\circ}$  and  $46^{\circ}$ . Hachure. Scale, 10 miles to the inch.

Montana and Wyoming Territories, embracing most of the country drained by Madison, Gallatin, and Upper Yellowstone rivers. Contour interval, 100 feet. Scale, 4 miles to the inch.

Geologic map on same base.

#### UTAH.

Drainage map of portions of Wyoming, Idaho, and Utah. Limiting meridians,  $107^{\circ}$  and  $112^{\circ} 30'$ ; limiting parallels,  $42^{\circ} 45'$  and  $44^{\circ}$ . Scale, 8 miles to the inch.



## WYOMING.

Yellowstone National Park. Limiting meridians,  $110^{\circ}$  and  $111^{\circ}$ ; limiting parallels,  $44^{\circ} 10'$  and  $45^{\circ}$ . Scale, 2 miles to the inch. Contour interval, 100 feet.

Geologic map on above base.

Yellowstone National Park. Hachure map. Scale, 10 miles to the inch. Also in report for 1871.

Upper Geyser Basin. Hachure. Scale, 600 feet to the inch.

Upper Geyser Basin. Hachure. Scale, 880 feet to the inch.

Upper Geyser Basin. Hachure. Scale, 500 feet to the inch.

Lower Geyser Basin. Hachure. Scale, 1,500 feet to the inch.

Lower Geyser Basin. Hachure. Scale, 880 feet to the inch.

Lower Geyser Basin. Hachure. Scale, 800 feet to the inch.

Gibbon Geyser Basin. Hachure. Scale, 200 feet to the inch.

Gibbon Geyser Basin. Hachure. Scale, 400 feet to the inch.

Shoshone Geyser Basin. Hachure. Scale, 125 feet to the inch.

Egeria Springs, Firehole River. Hachure. Scale, 250 feet to the inch.

Mammoth Hot Springs. Hachure. Scale, 400 feet to the inch.

Hot Springs on Witch Creek. Scale, 1,600 feet to the inch.

Yellowstone Lake. Scale, 2 miles to the inch.

Parts of Idaho, Montana, and Wyoming. Limiting meridians,  $109^{\circ}$  and  $114^{\circ}$ ; limiting parallels,  $43^{\circ}$  and  $46^{\circ}$ . Hachure. Scale, 10 miles to the inch.

Montana and Wyoming Territories, embracing most of the country drained by Madison, Gallatin, and Upper Yellowstone rivers. Contour interval, 100 feet. Scale, 4 miles to the inch.

Geologic map on same base.

Sources of Snake River and portions of headwaters of Madison and Yellowstone rivers. Topography shown by brush work. Scale, 5 miles to the inch.

Geologic map on above base.

Geologic map of parts of central Wyoming. Limiting meridians,  $107^{\circ}$  and  $109^{\circ} 30'$ ; limiting parallels,  $41^{\circ} 45'$  and  $43^{\circ}$ . Scale, 4 miles to the inch.

Map showing primary triangulation of 1877-78. Scale, 12 miles to the inch.

Drainage map of portions of Wyoming, Idaho, and Utah. Limiting meridians,  $107^{\circ}$  and  $112^{\circ} 30'$ ; limiting parallels,  $42^{\circ} 45'$  and  $44^{\circ}$ . Scale, 8 miles to the inch.

# UNITED STATES GEOLOGICAL EXPLORATION OF THE FORTIETH PARALLEL (KING).

## ANNUAL REPORTS.

1871.

[Report of Clarence King, geologist in charge of the Geological Exploration of the 40th Parallel.] Annual Report of the Chief of Engineers to the Secretary of War for the year 1871. Appendix Z, pp. 1027-1030.

1872.

Geological Exploration of the 40th Parallel, from the Sierra Nevada to the eastern slope of the Rocky Mountains. Annual Report of Chief of Engineers to the Secretary of War for the year 1872, pp. 101-102.

1873.

Report of Mr. Clarence King, geologist, in charge of the Geological Exploration of the Fortieth Parallel, from Sierra Nevada to the eastern slope of the Rocky Mountains. Annual Report of the Chief of Engineers to the Secretary of War for 1873, Appendix DD, pp. 1203-1210.

1874.

Annual Report of Mr. Clarence King, geologist, for the fiscal year ending June 30, 1874. Annual Report of the Chief of Engineers to the Secretary of War for 1874, Part II, Appendix EE, pp. 477-480.

1875.

Annual Report of Mr. Clarence King, geologist, for the fiscal year ending June 30th, 1875. Annual Report of the Chief of Engineers to the Secretary of War for 1875, Part II, Appendix KK, pp 919-920.

1876.

Annual Report of Mr. Clarence King, geologist, for the fiscal year ending June 30, 1876. Annual Report of the Chief of Engineers to the Secretary of War for 1876, Part III, Appendix II, pp. 217-218.

1877.

Annual Report of Mr. Clarence King, geologist, for the fiscal year ending June 30, 1877. Annual Report of the Chief of Engineers to the Secretary of War for 1877, Part II, Appendix MM, p. 1207.

1878.

Annual Report of Clarence King, geologist, for the fiscal year ending June 30, 1878. Annual Report of the Chief of Engineers to the Secretary of War for 1878, Part III, Appendix MM, p. 1419.

### FINAL REPORTS OR MONOGRAPHS.

[Vignette] Professional Papers of the Engineer Department, U. S. Army. No. 18. Report of the Geological Exploration of the Fortieth Parallel made by order of the Secretary of War according to acts of Congress of March 2, 1867, and March 3, 1869, under the direction of Brig. and Bvt. Major General A. A. Humphreys, Chief of Engineers, by Clarence King, U. S. geologist.

Volume I [-VII].

4°. 7 vols.

- I. Systematic geology, by Clarence King, U. S. Geologist. 1878. xii, 803 pp., 16 tables, 28 pls. (2 pls. marked "Plate I," 1 pl. not numbered), 12 maps and atlas of 12 sheets folio.<sup>a</sup>
- II. Descriptive geology, by Arnold Hague and S. F. Emmons. 1877. xiii, 890 pp., 26 pls.
- III. Mining industry, by James D. Hague, with geological contributions by Clarence King. 1870. xv, 647 pp., 37 pls., frontispiece, and atlas of 14 sheets folio.<sup>a</sup>
- IV. Part I, Palæontology, by F. B. Meek. Part II, Palæontology, by James Hall and R. P. Whitfield. Part III, Ornithology, by Robert Ridgway. 1877. xii, 669 pp., 18 ll., 24 pls.
- V. Botany, by Sereno Watson, aided by Prof. Daniel C. Eaton and others. 1871. liii, 525 pp., 1 map, 40 pls.
- VI. Microscopical petrography, by Ferdinand Zirkel. 1876. xv, 297 pp., 12 pls.
- VII. Odontornithes: A monograph on the extinct toothed birds of North America, by Othniel Charles Marsh, professor of paleontology in Yale College. 1880. xv, 201 pp., 34 ll., 34 pls.

### ATLAS.

[Vignette] Engineer Department, U. S. A., Geological and Topographical Atlas accompanying the report of the Geological Exploration of the Fortieth Parallel, made by authority of the Honorable Secretary of War, under the direction of Brig. and Bvt. Major General

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<sup>a</sup>See p 40.

A. A. Humphreys, Chief of Engineers, U. S. A., by Clarence King, U. S. geologist-in-charge. 1876. Julius Bien Lith.

Folio, 2 ll., (title and legend), 1 single and 11 double folio sheets (1 single folio map, 10 double folio maps, 1 double folio section).

Contains topographic (shaded) map of Cordilleran region, limiting meridians  $104^{\circ}$  and  $124^{\circ}$ ; limiting parallels  $29^{\circ}$  and  $50^{\circ}$ . Scale, 60 miles to the inch.

Also contains four geologic and four topographic (shaded) maps, on scale of 4 miles to the inch, of the following areas:

Sheet I. Longitude,  $104^{\circ} 30'$ – $107^{\circ} 37'$ ; latitude,  $40^{\circ} 20'$ – $41^{\circ} 54'$ .

Sheet II. Longitude,  $107^{\circ} 37'$ – $110^{\circ} 43'$ ; latitude,  $40^{\circ} 16'$ – $41^{\circ} 50'$ .

Sheet III. Longitude,  $110^{\circ} 43'$ – $113^{\circ} 50'$ ; latitude,  $40^{\circ} 13'$ – $41^{\circ} 46'$ .

Sheet IV. Longitude,  $113^{\circ} 50'$ – $116^{\circ} 56'$ ; latitude,  $39^{\circ} 55'$ – $41^{\circ} 29'$ .

[Vignette] United States Geological Exploration of the Fortieth Parallel, Clarence King, Geologist in charge. Atlas accompanying Volume III on mining industry. [List of plates.] Engraved and printed by Julius Bien, New York.

Folio, 1 l. (title page), 14 pls.

### SPECIAL PUBLICATION.

United States Geological Exploration of the 40th Parallel. Clarence King, U. S. geologist-in-charge. List of plants collected in Nevada and Utah, 1867–69; numbered as distributed. Sereno Watson, collector.

# UNITED STATES GEOGRAPHICAL AND GEOLOGICAL SURVEY OF THE ROCKY MOUNTAIN REGION (POWELL).

## EARLY REPORTS BY J. W. POWELL.<sup>a</sup>

Forty-second Congress, second session, House of Representatives, Mis. Doc. No 173. Survey of the Colorado River of the West. Letter from the Secretary of the Smithsonian Institution, transmitting report preliminary for continuing the survey of the Colorado of the West and its tributaries, by Professor Powell. April 5, 1872.—Referred to the Committee on Appropriations and ordered to be printed.

8°. 12 pp.

Forty-second Congress, third session, House of Representatives, Mis. Doc. No 76. Report of the survey of the Colorado of the West. Letter from the Secretary of the Smithsonian Institution, transmitting a report of the survey of the Colorado of the West and its tributaries. January 31, 1873.—Referred to the Committee on Appropriations and ordered to be printed.

8°. 16 pp.

Forty-third Congress, first session, House of Representatives, Mis. Doc. No 265. Professor Powell's Report on the survey of the Colorado of the West. Letter from the Secretary of the Smithsonian Institution, transmitting a report of Professor Powell on the survey of the Colorado River of the West and its tributaries, etc., etc. May 2, 1874. Referred to the Committee on Appropriations and ordered to be printed.

8°. 29 pp.

Report of explorations in 1873 of the Colorado of the West and its tributaries, by Professor J. W. Powell, under the direction of the Smithsonian Institution. Washington: Government Printing Office. 1874.

8°. 36 pp. (Same as House Mis Doc. 265, 43d Cong., 1st sess.).

Exploration of the Colorado River of the West and its tributaries. Explored in 1869, 1870, 1871, and 1872, under the direction of the Secretary of the Smithsonian Institution. [By J. W. Powell.] Washington: Government Printing Office. 1875

4°. xi, 291 pp., 2 ll., 72 illustrations.

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<sup>a</sup>These reports were issued before the Powell survey was organized, but they are preliminary to the publications of that organization.

## FINAL REPORTS.

Department of the Interior. U. S. Geological and Geographical Survey of the Territories. Second division.—J. W. Powell, geologist in charge. Report on the geology of the eastern portion of the Uinta Mountains and a region of country adjacent thereto. With atlas. By J. W. Powell. Washington: Government Printing Office. 1876

4°, vii, 218 pp., 4 illustrations and atlas of 8 sheets folio.

Report on the Geological and Geographical Survey of the Rocky Mountain region, by J. W. Powell. Washington: Government Printing Office. 1877.

8° 19 pp., 1 map.

U. S. Geographical and Geological Survey of the Rocky Mountain Region. J. W. Powell, in charge. Preliminary report on the paleontology of the Black Hills, by R. P. Whitfield, containing descriptions of new species of fossils from the Potsdam, Jurassic, and Cretaceous formations of the Black Hills of Dakota. Washington: Government Printing Office. July, 1877.

8° 49 pp.

Department of the Interior. U. S. Geographical and Geological Survey of the Rocky Mountain Region. J. W. Powell, in charge. Report on the geology of the Henry Mountains. By G. K. Gilbert. [Seal of the Department] Washington: Government Printing Office. 1877 [second edition, 1880]

4° x, 160 pp., 27 ll. containing illustrations

Report on the lands of the arid region of the United States, with a more detailed account of the lands of Utah. With maps. By J. W. Powell. Second edition.<sup>a</sup> Washington: Government Printing Office. 1879.

4°. xv, 195 pp., 5 maps.

Department of the Interior. U. S. Geographical and Geological Survey of the Rocky Mountain Region. J. W. Powell, in charge. Report on the geology and resources of the Black Hills of Dakota, with atlas, by Henry Newton, E. M., and Walter P. Jenney, E. M. [Seal of the Department] Washington. Government Printing Office. 1880.

4°. xvii, 566 pp., 23 ll., frontispiece, 28 illustrations and atlas containing 3 sheets folio.

Department of the Interior. U. S. Geographical and Geological Survey of the Rocky Mountain Region. J. W. Powell, in charge. Report on the geology of the high plateaus of Utah, with atlas, by C. E.

<sup>a</sup>First edition was published as a document of Congress.

Dutton, Captain of Ordnance, U. S. A. [Seal of the Department]  
Washington Government Printing Office 1880

4°. xxxii, 307 pp., 11 heliotypes, 2 pls., 2 unnumbered illustrations, atlas of 8 sheets folio.

## CONTRIBUTIONS TO NORTH AMERICAN ETHNOLOGY.

Department of the Interior. U. S. Geographical and Geological Survey of the Rocky Mountain region. J. W. Powell in charge. [Vol. I, geologist in charge] Contributions to North American Ethnology. Volume I [-VII, IX] [Seal of the Department] Washington: Government Printing Office. 1877 [-1893]

4° 9 vols.

- ✓ I. Tribes of the extreme Northwest, by W. H. Dall. Tribes of western Washington and northwestern Oregon, by Geo. Gibbs. 1877. xiv, 361 pp., 10 illustrations, 2 maps.

Part I. Tribes of the extreme Northwest, by W. H. Dall, pp. 1-106.

Appendix to Part I. Linguistics.

Notes on the natives of Alaska (communicated to the late George Gibbs, M. D., in 1862), by his excellency J. Furuhelm, late governor of the Russian-American colonies, pp. 111-116.

Terms of relationship used by the Innuits: A series obtained from natives of Cumberland Inlet, by W. H. Dall, pp. 117-119.

Comparative vocabularies [by George Gibbs and W. H. Dall], pp. 121-153.

Note on the use of numerals among the T'sim Si an', by George Gibbs, M. D., pp. 155-156.

Part II. Tribes of western Washington and northwestern Oregon, by George Gibbs, M. D., pp. 157-241.

Appendix to Part II. Linguistics, pp. 243-361.

Comparative vocabularies [by George Gibbs, W. F. Tolmie, and Gregory Mengarini], pp. 243-283.

Dictionary of the Niskwalli, by George Gibbs, M. D., pp. 285-361.

- ✓ II. The Klamath Indians of southwestern Oregon, by Albert Samuel Gatschet. 1890. 2 parts. cvii, 711 pp., 1 map; iii, 711 pp.

- ✓ III. Tribes of California, by Stephens Powers. 1877. 3 ll., 645 pp., frontispiece, 45 ll. containing illustrations, pocket map.

- ✓ IV. Houses and house life of the American aborigines, by Lewis H. Morgan. 1881. xiv, 281 pp., frontispiece, 28 ll. containing figures.

- ✓ V. 1881. iii, 112, 32, xxxvii, 237 pp., 18 pls., 35 ll. containing figures. Observations on cup-shaped and other lapidarian sculptures in the Old World and in America, by Charles Rau, iii, 112 pp., 35 ll.

On prehistoric trephining and cranial amulets, by Robert Fletcher, M. R. C. S. Eng. Act. Asst. Surgeon U. S. Army, 32 pp., 9 pls.

A study of the manuscript Troano, by Cyrus Thomas, Ph. D., with an introduction by D. G. Brinton, M. D., xxxvii, 237 pp., 9 pls.

- ✓ VI. The Čegiha language, by James Owen Dorsey. 1890. xviii, 794 pp.

- ✓ VII. A Dakota-English dictionary, by Stephen Return Riggs; edited by James Owen Dorsey. 1890, x, 665 pp.

VIII. Not published.

- ✓ IX. Dakota grammar, texts, and ethnography, by Stephen Return Riggs; edited by James Owen Dorsey. 1893. pp.

# UNITED STATES GEOGRAPHICAL SURVEYS WEST OF THE ONE HUNDREDTH MERIDIAN (WHEELER).

## ANNUAL REPORTS.

1869.

Engineer Department, U. S. Army. Preliminary report upon a reconnaissance through southern and southeastern Nevada, made in 1869, by First Lieut. Geo. M. Wheeler, Corps of Engineers, U. S. Army, assisted by First Lieut. D. W. Lockwood, Corps of Engineers, U. S. Army, under the orders of Brig. Gen. E. O. C. Ord, Bvt. Maj. Gen. U. S. Army, commanding Department of California. Washington: Government Printing Office. 1875.

4°; 72 pp.

1871.

Preliminary report concerning explorations and surveys principally in Nevada and Arizona. Prosecuted in accordance with paragraph 2, special orders No. 109, War Department, March 18, 1871, and letter of instructions of March 23, 1871, from Brig. Gen. A. A. Humphreys, Chief of Engineers. Conducted under the immediate direction of 1st Lieut. George M. Wheeler, Corps of Engineers. 1871. Washington: Government Printing Office. 1872.

4° 96 pp., 1 map.

[Progress report], pp. 11-62.

Appendix A. Report of Daniel W. Lockwood, First Lieutenant of Engineers, pp. 62-76.

Appendix B. Report of Second Lieutenant D. A. Lyle, United States Artillery, pp. 76-90.

Appendix C. Report of Edward P. Austin, astronomical assistant, pp. 91-92.

Appendix D. Report of G. K. Gilbert, geological assistant, pp. 92-96.

1872.

Engineer Department, United States Army. Progress report upon geographical and geological explorations and surveys west of the one hundredth meridian, in 1872, under the direction of Brig. Gen. A. A. Humphreys, Chief of Engineers, United States Army, by First Lieut. George M. Wheeler, Corps of Engineers, in charge. Washington: Government Printing Office. 1874.

4° 56 pp., 5 pls. and 1 map.

[Progress report], pp. 7-43; pls. i-v, map.

Appendix A. Preliminary astronomical report, by John H. Clark, astronomical assistant, pp. 44-45.



Appendix B. Preliminary astronomical report, by William W. Maryatt, astronomical assistant, pp. 45-47.

Appendix C. Report by First Lieut. W. L. Marshall concerning the sextant astronomical observations, pp. 47-48.

Appendix D. Preliminary geological report, by G. K. Gilbert, chief geological assistant, expedition of 1872, pp. 48-52.

Appendix E. Report upon natural history collections, by Acting Assistant Surgeon H. C. Yarrow, surgeon and naturalist, pp. 52-55.

Appendix F. Preliminary ethnological report by M. S. Severance, pp. 55-56.

### 1873.

Annual report upon the geographical surveys and explorations west of the one hundredth meridian, in Nevada, Utah, Colorado, New Mexico, and Arizona, by George M. Wheeler, First Lieutenant of Engineers, U. S. A.; being Appendix EE of the Annual Report of the Chief of Engineers for 1873. Washington: Government Printing Office. 1873.

8° 11 pp., 1 map.

### 1874.

Annual report upon the geographical explorations and surveys west of the one hundredth meridian, in California, Nevada, Utah, Arizona, Colorado, New Mexico, Wyoming, and Montana, by George M. Wheeler, First Lieutenant of Engineers, U. S. A.; being Appendix FF of the Annual Report of the Chief of Engineers for 1874. Washington: Government Printing Office. 1874.

8°. 130 pp., 1 map.

[Progress report], pp. 3-112, map.

Plan for publication of reports and maps, with estimates. Summary of publications to present time, pp. 112-114.

Notes on the Eocene and Pliocene lacustrine formations of New Mexico, including descriptions of certain new species of vertebrates, by Prof. E. D. Cope, paleontologist to the expedition, pp. 115-130.

### 1875.

Annual report upon the geographical explorations and surveys west of the one hundredth meridian in California, Nevada, Nebraska, Utah, Arizona, Colorado, New Mexico, Wyoming and Montana, by George M. Wheeler, First Lieutenant of Engineers, U. S. A.; being Appendix LL of the Annual Report of the Chief of Engineers for 1875. Washington: Government Printing Office. 1875

8° iv, 196 pp., 2 ll., 9 pls., 2 maps, 1 diagram.

[Progress report], pp. 3-37, pl. i, 2 maps.

Appendix A. Executive report of Lieutenant William L. Marshall, Corps of Engineers, on the operations of party No. 1, division 1, field season of 1874, pp. 37-40.

Appendix B. Executive report of Lieutenant P. M. Price, Corps of Engineers, on the operations of party No. 1, second division, field season of 1874, pp. 40-41.

Appendix C. Executive report of Lieutenant R. Birnie, jr., Thirteenth United States Infantry, on the operations of party No. 2, first division, field season of 1874, pp. 41-43.

Appendix D. Executive report of Lieutenant Stanhope E. Blunt, Ordnance Corps, on the operations of party No. 2, second division, field season of 1874, pp. 43-44.

Appendix E. Executive report of Lieutenant C. W. Whipple, Third United States Artillery, on the operations of party No. 1, first division, and subparties, field season of 1874, pp. 44-46.

Appendix F. Meteorology and hypsometry, field season of 1874, by Lieutenant W. L. Marshall, Corps of Engineers, pp. 47-60, diagram.

Appendix G 1. Report on the geology of that part of northwestern New Mexico examined during the field season of 1874, by E. D. Cope, paleontologist and geologist, pp. 61-97, pls. ii-vi.

Appendix G 2. Geological and mineralogical report on portions of Colorado and New Mexico, by Dr. O. Loew, mineralogist and chemist, pp. 97-116.

Appendix H 1. Preliminary botanical report, with remarks upon the general topography of the region traversed in New Mexico and Arizona; its climatology, forage plants, timber, irrigation, sanitary conditions, etc., by Dr. J. T. Rothrock, acting assistant surgeon, United States Army, pp. 117-129, pls. vii, viii.

Appendix H 2. Report upon the agricultural resources of northern New Mexico and southern Colorado, with analyses of soils, plants, etc., by Dr. O. Loew, pp. 129-139.

Appendix I 1. Zoological report, field season of 1874.

✓ I. General itinerary, by Acting Assistant Surgeon H. C. Yarrow, U. S. Army, pp. 139-148.

II. Notes upon the ornithology of the regions traversed, by H. W. Henshaw, ornithological assistant, pp. 149-150.

III. Notes on the ornithology observed by Mr. C. E. Aiken, assistant, pp. 150-153.

Appendix I 2. Annotated list of the birds of Arizona, by H. W. Henshaw, ornithological assistant, pp. 153-166.

✍ Appendix J. Ethnology, philology, and ruins.

✓ 1. Report on the remains of population observed on and near the Eocene Plateau of northwestern New Mexico, by Prof. E. D. Cope, pp. 166-173.

✓ 2. Report on the ruins of New Mexico, by Dr. Oscar Loew, pp. 174-178.

✓ 3. Report on certain ruins visited in New Mexico, by Lieutenant Rogers Birnie, jr., Thirteenth United States Infantry, pp. 178-180, pl. ix.

✓ 4. Report on the Pueblo languages of New Mexico and of the Moquis in Arizona; their affinity to each other and to the languages of the other Indian tribes, by Alb. S. Gatchet, philologist, pp. 180-187.

Appendix K. Publications, maps, reports, photographs, pp. 187-188.

Index, pp. 189-196.

1876.

✓ Annual report upon the geographical surveys west of the one hundredth meridian in California, Nevada, Utah, Colorado, Wyoming, New Mexico, Arizona, and Montana, by George M. Wheeler, First Lieutenant of Engineers, U. S. A.; being Appendix JJ of the Annual Report of the Chief of Engineers for 1876. Washington: Government Printing Office. 1876.

8°. vi, 355 pp., 2 ll., 11 illustrations and maps.

[Progress report], pp. 1-79, 3 maps.

- Appendix A. Executive and descriptive report of Lieutenant William L. Marshall, Corps of Engineers, on the operations of party No. 1, Colorado section, field season of 1875, pp. 80-109.
- Appendix B. Preliminary report upon the operations of party No. 3, California section, season of 1875-76, with a view to determine the feasibility of diverting the Colorado River for purposes of irrigation, by Lieutenant Eric Bergland, Corps of Engineers, pp. 109-125, 7 maps and illustrations.
- Appendix C. Executive and descriptive report of Lieutenant W. L. Carpenter, Ninth Infantry, on the operations of party No. 3, Colorado section, field season of 1875, pp. 126-130.
- Appendix D. Executive report of Lieutenant R. Birnie, jr., Thirteenth United States Infantry, on the operations of party No. 2, California section, field season of 1875, pp. 130-135.
- Appendix E. Executive and descriptive report of Lieutenant C. C. Morrison, Sixth Cavalry, on the operations of party No. 2, Colorado section, field season of 1875, pp. 136-147.
- Appendix F. Executive report of Lieutenant C. W. Whipple, Ordnance Corps, on the operations of special party, California section, field season of 1875, pp. 147-150.
- Appendix G 1. Meteorology and hypsometry, field season of 1875, by Lieutenant W. L. Marshall, Corps of Engineers, pp. 150-152.
- Appendix G 2. On the meteorological conditions of the Mohave Desert, [by Oscar Loew], pp. 152-157.
- Appendix H 1. Report on the geology of southern California, by Prof. Jules Marcou, pp. 158-172.
- Appendix H 2. Report on the geological and mineralogical character of southeastern California and adjacent regions, pp. 173-188.
- Appendix H 3. Report on the alkaline lakes, thermal springs, mineral springs, and brackish waters of southern California and adjacent country [by Oscar Loew], pp. 188-199.
- Appendix H 4. Report on the geology of the mountain ranges from La Veta Pass to the head of the Pecos, by A. R. Conkling, pp. 199-202.
- Appendix H 5. Report upon the operations of a special natural-history party and main field party No. 1, California section, field season of 1875, being the results of observations upon the economic botany and agriculture of portions of southern California, by Dr. J. T. Rothrock, acting assistant surgeon, United States Army, pp. 202-213.
- Appendix H 6. Report on the physical and agricultural features of southern California, and especially of the Mohave Desert, [by Oscar Loew], pp. 214-222.
- Appendix H. 7. Report on the geographical distribution of vegetation in the Mohave Desert, [by Oscar Loew], pp. 222-224.
- Appendix H 8. Report on the ornithology of the portions of California visited during the field season of 1875, by H. W. Henshaw, pp. 224-278.
- Appendix H 9. Report on the Orthoptera, collected by the United States geographical surveys west of the one-hundredth meridian, under the direction of Lieutenant George M. Wheeler, during the season of 1875, by Samuel H. Scudder, pp. 278-295.
- Appendix H 10. New species of Coleoptera, collected by the expeditions for geographical surveys west of one-hundredth meridian, in charge of Lieut. George M. Wheeler, United States Engineers, by John L. Leconte, M. D., pp. 296-300.
- Appendix H 11. Report on the alpine insect fauna of Colorado and New Mexico, season of 1875, by Lieut. W. L. Carpenter, Ninth Infantry, pp. 301-305.
- Appendix H 12. Notes on the mammals taken and observed in California in 1875, by H. W. Henshaw, pp. 305-312.

- Appendix II 13. Report on the operations of a special party for making ethnological researches in the vicinity of Santa Barbara, Cal., with an historical account of the region explored, by Dr. H. C. Yarrow, acting assistant surgeon, United States Army, pp. 312-321.
- Appendix H 14. Notes upon ethnology of southern California and adjacent regions, by Dr. O. Loew, pp. 321-327, 1 illustration.
- Appendix H 15. On the physiological effects of a very hot climate, by Dr. O. Loew, pp. 328-330.
- Appendix H 16. Analytical report on eleven idioms spoken in southern California, Nevada, and on the lower Colorado River, their phonetic elements, grammatical structure, and mutual affinities, by Alb. S. Gatschet, pp. 330-343.
- Index, pp. 345-355.

## 1877.

✓ Annual report upon the geographical surveys west of the one-hundredth meridian in the States and Territories of California, Oregon, Nevada, Texas, Arizona, Colorado, Idaho, Montana, New Mexico, Utah, and Wyoming, by George M. Wheeler, First Lieutenant of Engineers, U. S. A., being Appendix NN of the Annual Report of the Chief of Engineers for 1877. Washington: Government Printing Office. 1877.

8°. iv, 1209-1334, v pp., 3 illustrations.

[Progress Report], pp. 1211-1250, 3 illustrations.

Appendix A. Executive and descriptive report of Lieutenant Eric Bergland, Corps of Engineers, on the operations of party No. 1, Colorado section, field season of 1876, pp. 1250-1252.

Appendix B. Executive and descriptive report of Lieutenant Saml. E. Tillman, Corps of Engineers, on the operations of party No. 1, California section, field season of 1876, pp. 1253-1256.

Appendix C. Executive and descriptive report of Lieutenant Thomas W. Symons, Corps of Engineers, on the operations of party No. 3, California section, field season of 1876, pp. 1257-1262.

Appendix D. Executive and descriptive report of Lieutenant R. Birnie, jr., Thirtieth Infantry, on the operations of party No. 4, California section, field season of 1876, pp. 1262-1272.

Appendix E. Executive and descriptive report of Lieutenant Charles C. Morrison, Sixth Cavalry, on the operations of party No. 2, Colorado section, field season of 1876, pp. 1273-1278.

Appendix F. Executive and descriptive report of Lieutenant M. M. Macomb, Fourth Artillery, on the operations of party No. 2, California section, field season of 1876, pp. 1278-1284.

Appendix G. Preliminary report on examination at the Comstock lode, by John A. Church, pp. 1284-1285.

Appendix H. Geological report on the portions of western Nevada and eastern California between the parallels of 39° 30' and 38° 30', explored in the field season of 1876, by Mr. A. R. Conkling, pp. 1285-1295.

Appendix H 1. Report on the lithology of portions of southern Colorado and northern New Mexico, by A. R. Conkling, pp. 1295-1298.

Appendix II 2. Report on the foothills facing the plains from latitude 35° 30' to 38° approximately, by Mr. A. R. Conkling, pp. 1298-1303.

Appendix I. Report on the ornithology of portions of Nevada and California, by Mr. H. W. Henshaw, pp. 1303-1322.

Appendix J. Report upon the hemiptera collected during the years 1874 and 1875, by Mr. P. R. Uhler, pp. 1322-1334.

Index, i-v.

1878.

Annual report upon the geographical surveys of the territory of the United States west of the 100th meridian in the States and Territories of California, Colorado, Kansas, Nebraska, Nevada, Oregon, Texas, Arizona, Idaho, Montana, New Mexico, Utah, Washington, and Wyoming, by George M. Wheeler, First Lieutenant Corps of Engineers, U. S. Army, being Appendix NN of the Annual Report of the Chief of Engineers for 1878. Washington: Government Printing Office. 1878.

8°. x, 234 pp., 8 illustrations and maps.

[Progress report], pp. 1-103, map.

Appendix A. Executive and descriptive report of Lieutenant Eric Bergland, Corps of Engineers, on the operations of party No. 1, Colorado section, field season of 1877, pp. 103-106.

Appendix B. Executive and descriptive report of Lieutenant Samuel E. Tillman, Corps of Engineers, on the operations of party No. 1, Utah section, field season of 1877, pp. 107-112.

Appendix C. Executive and descriptive report of Lieutenant Thomas W. Symons, Corps of Engineers, on the operations of party No. 1, California section, field season of 1877, pp. 113-120.

Appendix D. Brief executive and descriptive report of Lieutenant Willard Young, Corps of Engineers, on the operations of party No. 1, Utah section, field season of 1877, pp. 120-122.

Appendix E. Executive and descriptive report of Lieutenant R. Birnie, jr., Ordnance Department, on the operations of party No. 2, Utah section, field season of 1877, pp. 122-131.

Appendix F. Executive and descriptive report of Lieutenant Charles C. Morrison, Sixth Cavalry, on the operations of party No. 2, Colorado section, field season of 1877, pp. 131-139, 2 illustrations.

Appendix G. Executive and descriptive report of Lieutenant M. M. Macomb, Fourth Artillery, on the operations of party No. 2, California section, field season of 1877, pp. 139-145.

Appendix H. Report upon examination of the Comstock lode, by John A. Church, pp. 145-166.

Appendix I. Geological report on portions of western Nevada and eastern California, including part of the Sierra Nevada Range, by A. R. Conkling, field season of 1877, pp. 167-183.

Appendix I 1. Report on the lithology and mineralogy of portions of Nevada and California, by A. R. Conkling, field season of 1877, pp. 184-185.

Appendix J. Preliminary report on the ornithology of portions of California and Nevada, by H. W. Henshaw, field season of 1877, pp. 185-186.

Appendix K. Report upon the fishes collected during the year 1875, 1876, and 1877, in California and Nevada, by Prof. David S. Jordan and H. W. Henshaw, pp. 187-200, pls. i-iv.

Bull. 222-04-4

Appendix K 1. List of marine fishes collected on the coast of California, near Santa Barbara, in 1875, with notes by Dr. H. C. Yarrow, acting assistant surgeon, U. S. A., and H. W. Henshaw, pp. 201-205.

Appendix L. Report upon the reptiles and batrachians collected during the years of 1875, 1876, and 1877 in California, Arizona, and Nevada, by Dr. H. C. Yarrow, acting assistant surgeon, U. S. A., and H. W. Henshaw, pp. 206-226.

✓ Appendix M. Notes upon the first discoveries of California and the origin of its name, by Prof. Jules Marcou, pp. 226-229, map.

Index, pp. 231-234.

## 1879.

Annual report upon the geographical surveys of the territory of the United States west of the 100th meridian, in the States and Territories of California, Colorado, Kansas, Nebraska, Nevada, Oregon, Texas, Arizona, Idaho, Montana, New Mexico, Utah, Washington, and Wyoming. By George M. Wheeler, Captain Corps of Engineers, U. S. Army; being Appendix OO of the Annual Report of the Chief of Engineers for 1879. Washington: Government Printing Office. 1879.

8°. vi, 340 pp., 4 maps.

[Progress report], pp. i-vi, 1-209, 3 maps.

Appendix A. Report of Lieutenant S. E. Tillman, Corps of Engineers, in charge of party No. 1, Utah section, field season of 1878, pp. 209-214, map.

Appendix B. Report of Lieutenant T. W. Symons, Corps of Engineers, in charge of party No. 1, California section, season of 1878, pp. 214-223.

Appendix C. Report of Lieutenant Eugene Griffin, Corps of Engineers, in charge of party No. 2, Colorado section, season of 1878, pp. 223-228.

Appendix D. Report of Lieutenant Willard Young, Corps of Engineers, in charge of party No. 2, Utah section, field season of 1878, pp. 228-235.

Appendix D (sub). Report of Lieutenant Willard Young, Corps of Engineers, in charge of a special party engaged in the survey of great Salt Lake and vicinity, field season of 1879, pp. 235-237.

Appendix E. Report of Lieutenant Rogers Birnie, jr., Ordnance Corps, in charge of party No. 1, Colorado section, field season of 1878, pp. 237-253.

Appendix F. Report of Lieutenant M. M. Macomb, Fourth Artillery, in charge of party No. 2, California section, field seasons of 1878 and 1879, pp. 253-261.

Appendix G. Report of Lieut. H. H. Ludlow, Third Artillery, in charge of party No. 3, Utah section, field season of 1878, pp. 261-264.

Appendix H. Report of special astronomical party at Ogden, Utah, season of 1878, by T. H. Safford, Ph. D., assistant, pp. 264-265.

Appendix I. Report of special astronomical party operating in California, Oregon, and Washington Territory, by John H. Clark, astronomical assistant, pp. 265-268.

Appendix J. Report of special astronomical party operating in New Mexico and Texas, field season of 1878, by Miles Rock, assistant, pp. 268-270.

Appendix K. Preliminary report of a special geological party operating in Colorado and New Mexico, from Spanish Peaks to the south, field season of 1878, by Professor John J. Stevenson, assistant, pp. 271-281.

Appendix K (sub). Preliminary report of a special geological party operating in Colorado and New Mexico, field season of 1879, by Prof. John J. Stevenson, assistant, p. 281.

Appendix L. Ornithological report from observations and collections made in portions of California, Nevada, and Oregon, by Assistant H. W. Henshaw, pp. 282-335.

Index, pp. 337-340.

1880.

Annual report upon the geographical and topographical surveys of the territory of the United States west of the 100th meridian, in the States and Territories of California, Colorado, Kansas, Nebraska, Nevada, Oregon, Texas, Arizona, Idaho, Montana, New Mexico, Utah, Washington, and Wyoming, by George M. Wheeler, Captain Corps of Engineers, U. S. A.; being Appendix PP of the Annual Report of the Chief of Engineers for 1880. Washington: Government Printing Office. 1880.

8°. v, 40 pp., 1 map.

1881.

Annual report upon the geographical and topographical surveys of the territory of the United States west of the 100th meridian, in the States and Territories of California, Colorado, Kansas, Nebraska, Nevada, Oregon, Texas, Arizona, Idaho, Montana, New Mexico, Utah, Washington, and Wyoming, in charge of George M. Wheeler, Captain Corps of Engineers, U. S. A. Report of M. M. Macomb, First Lieutenant, Fourth U. S. Artillery, in temporary charge; being Appendix UU of the Annual Report of the Chief of Engineers for 1881. Washington: Government Printing Office. 1881.

8°. iv, 2805-2808 pp., 1 map.

1882.

Annual report upon the geographical and topographical surveys of the territory of the United States west of the 100th meridian, in the States and Territories of California, Colorado, Kansas, Nebraska, Nevada, Oregon, Texas, Arizona, Idaho, Montana, New Mexico, Utah, Washington, and Wyoming, in charge of George M. Wheeler, Captain Corps of Engineers, U. S. A. Report of M. M. Macomb, First Lieutenant, Fourth U. S. Artillery, in temporary charge; being Appendix TT of the Annual Report of the Chief of Engineers for 1882. Washington: Government Printing Office. 1882.

8°. 2821-2824 pp., 2 ll.

1883.

Annual report upon the geographical and topographical surveys of the territory of the United States west of the 100th meridian, in the States and Territories of California, Colorado, Kansas, Nebraska, Nevada, Oregon, Texas, Arizona, Idaho, Montana, New Mexico, Utah,

Washington, and Wyoming, in charge of George M. Wheeler, Captain Corps of Engineers, U. S. A.; Report of M. M. Macomb, First Lieutenant, Fourth U. S. Artillery, in temporary charge; being Appendix UU of the Annual Report of the Chief of Engineers for 1883. Washington: Government Printing Office. 1883.

8°. 2379-2381 pp., 2 ll.

1884.

Annual report upon the geographical and topographical surveys of the territory of the United States west of the 100th meridian, in the States and Territories of California, Colorado, Kansas, Nebraska, Nevada, Oregon, Texas, Arizona, Idaho, Montana, New Mexico, Utah, Washington, and Wyoming, in charge of George M. Wheeler, Captain Corps of Engineers, U. S. A.; being Appendix VV of the Annual Report of the Chief of Engineers for 1884. Washington: Government Printing Office. 1884.

8°. v, 2375-2378 pp.

### FINAL REPORTS OR MONOGRAPHS.

[Vignette] [in Vol. I only]. Engineer Department, U. S. [Vols. III and V, United States] Army. Report upon United States Geographical Surveys [Vols. III and V, Report upon Geographical and Geological Explorations and Surveys] west of the one hundredth meridian, in charge of Capt. [Vols. II, III, IV-VII, First Lieut.] Geo. M. Wheeler, Corps of Engineers, U. S. Army, under the direction of the Chief of Engineers [Vols. II, III, IV-VII, Brig. Gen. A. A. Humphreys, Chief of Engineers; Vol. III, Supplement, Brig. Gen. H. G. Wright, Chief of Engineers] U. S. Army. Published by authority of the honorable the Secretary of War [Vol. III, Hon. Wm. W. Belknap, Secretary of War], in accordance with acts of Congress of June 23, 1874, and February 15, 1875. In seven volumes and one supplement [Vols. II, III, Supplement IV, VI, VII, in seven volumes; Vols. III and V, in six volumes], accompanied by one topographical and one geological atlas. Volume I [II-III, III Supplement, IV-VII], Geographical Report. [Vol. II, Astronomy and barometric hypsometry; Vols. III and III, Supplement, Geology; Vol. IV, Paleontology; Vol. V, Zoology; Vol. VI, Botany; Vol. VII, Archæology]. Washington: Government Printing Office. 1889 [Vols. II and IV, 1877; Vols. III and V, 1875; Vol. III, Supplement, 1881; Vol. VI, 1878; Vol. VII, 1879.]

4°. 8 Vols.

I. Geographical Report. 1889, 780 pp., 24 pls., 17 illustrations (maps, etc.).

[Part I], pp. 9-512.

Introduction, pp. 9-20.

Areas occupied, pp. 21-146, pls. i-xv.

Itinerary of Colorado Grand Canyon and River trip of 1871, pp. 147-171, pls. xvi-xxiv, map.



- Population, industries, communications, irrigation, and artesian wells, pp. 172-210.
- ✓ Indians, pp. 211-222.
- Land classification, pp. 223-227.
- Appendix A. Special list of latitudes, longitudes, altitudes, etc., of certain military posts west of the 100th meridian, pp. 229-233.
- Appendix B. Description of atlas sheets, pp. 235-329.
- Appendix C. Methods of survey, pp. 331-404, 4 illustrations.
- Appendix D. Notes on the survey and disposal of the public lands, pp. 405-413, map.
- Appendix E. Considerations upon National Government land and marine surveys, pp. 415-479, map.
- ✓ Part F. Memoir upon the voyages, discoveries, explorations, and surveys to and at the west coast of North America and interior of the United States west of the Mississippi River, between 1500 and 1880, including later bibliographical and other references to determine latitudes, longitudes, and altitudes available for the basis of the permanent official topographic atlas of the United States, pp. 481-512, 10 maps.
- Part II. Epitome of Warren's Memoir, giving a brief account of each of the exploring expeditions since A. D. 1800, by Lieut. Gouverneur K. Warren, corps of topographical engineers, U. S. A., pp. 513-597.
- Part III. Explorations and surveys, 1857-1880, pp. 599-745.
- Appendix G. Synoptical table of contents of quarto reports, in eight volumes, including vol. iii, Geology (supplement), pp. 747-755.
- Synoptical list of maps, pp. 757-760.
- Appendix H. Geographic-topographic surveys west of the one hundredth meridian, pp. 761-764.
- Index, pp. 765-780.
- II. Astronomy and barometric hypsometry. 1877. xiii, 571 pp, 15 ll, 22 pls.
- Part I. Reports upon the astronomical determinations at main stations in Nevada, Utah, Montana, Wyoming, Nebraska, Colorado, and New Mexico, occupied in the years 1872, 1873, and 1874, by Dr. F. Kampf, John H. Clark, Wm. W. Maryatt, and Prof. T. H. Safford, pp. 1-491, pls. 1-6.
- Part II. Results in barometric hypsometry, obtained during the years 1871, 1872, 1873, 1874, and 1875, reported by First Lieutenant Wm. L. Marshall, Corps of Engineers, U. S. Army, pp. 493-566, pls. vii-xxii.
- Index, pp. 567-571.
- III. Geology. 1875. 681 pp, 13 pls., and 4 ll., containing figs. 82, 101, 145, 167.
- Part I. Report on the geology of portions of Nevada, Utah, California, and Arizona examined in the years 1871 and 1872, by G. K. Gilbert, A. M., pp. 17-187, pls. i-iii.
- Part II. Report on the geology of route from St. George, Utah, to Gila River, Arizona, examined in 1871, by A. R. Marvine, pp. 189-225, pl. iv.
- Part III. Report on the geology of portions of Utah, Nevada, Arizona, and New Mexico examined in the years 1872 and 1873, by Edwin E. Howell, pp. 227-301, pls. v-vii.
- Part IV. Report on the geology of a portion of Colorado examined in 1873, by Prof. John J. Stevenson, pp. 303-501.
- Part V. Report on the geology of portions of New Mexico and Arizona examined in 1873, by G. K. Gilbert, A. M., pp. 503-567, pls. viii-xii.
- Part VI. Report upon mineralogical, agricultural, and chemical conditions observed in portions of Colorado, New Mexico, and Arizona in 1873, by Oscar Loew, Ph. D., pp. 569-661, pl. xiii.
- Index, pp. 663-681.

- III. Supplement—Geology. 1881. 420, xxxviii pp., 2 ll., 4 pls., and 3 maps.  
 Report upon geological examinations in southern Colorado and northern New Mexico during the years 1878 and 1879, by John J. Stevenson, Ph. D., professor of geology in the University of the city of New York, geological assistant to expeditions of 1873, 1878, and 1879, pp. 3-420, 3 maps.  
 Appendix. Report on the Carboniferous invertebrate fossils of New Mexico, by C. A. White, M. D., pp. i-xxxviii, pls. i-iv.
- IV. Paleontology. 1877. xv, 3-219, iv, 1-36, 36a, 36b, 37-370 pp., 83 ll., 83 pls.  
 Part I. Report upon the invertebrate fossils collected in portions of Nevada, Utah, Colorado, New Mexico, and Arizona by parties of the expeditions of 1871, 1872, 1873, and 1874, by Charles A. White, M. D., xv, pp. 3-219, pls. 1-21.  
 Part II. Report upon the extinct vertebrata obtained in New Mexico by parties of the expedition of 1874, by Prof. E. D. Cope, pp. i-iv, 1-36, 36a, 36b, 37-370 pls. 22-83.
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 Notes upon geographical distribution and variation with regard to the zoology of the Western United States, as relates more particularly to mammals and birds, by Dr. H. C. Yarrow, pp. 23-34, 2 ll.  
 Report upon the collections of mammals made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874 by Dr. Elliott Coues and Dr. H. C. Yarrow, pp. 35-129.  
 Report upon the ornithological collections made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, by H. W. Henshaw, pp. 131-507, pls. i-xv.  
 Report upon the collections of batrachians and reptiles made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, by Dr. H. C. Yarrow, pp. 509-584.  
 Synopsis of the reptiles and batrachians of Arizona, with critical and field notes and an extensive synonymy, by Dr. Elliott Coues, U. S. Army, pp. 585-633, pls. xvi-xxv.  
 Report upon the collections of fishes made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, by Prof. E. D. Cope and Dr. H. C. Yarrow, pp. 635-703, pls. xxvi-xxxii.  
 Report upon the collections of Hymenoptera made in portions of Nevada, Utah, Colorado, New Mexico, and Arizona during the years 1872, 1873, and 1874, by E. T. Cresson, with list of Formicidæ by Edward Norton, pp. 705-736, pls. xxxiii-xxxiv.  
 Report upon the collections of diurnal Lepidoptera made in portions of Colorado, Utah, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, with notes upon all species known to inhabit Colorado, by Theodore L. Mead, and a list of all species collected, by W. H. Edwards, pp. 737-794, pls. xxxv-xl.  
 Report upon new species of Zygaenidæ and Bombycidæ collected in portions of California and Arizona during the years 1871, 1872, and 1873, by Richard H. Stretch, pp. 795-802.  
 Report upon the collection of Diptera made in portions of Colorado and Arizona during the year 1873, by C. R. Osten-Sacken, pp. 803-807.  
 Report upon the collections of Coleoptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, by Henry Ulke, pp. 809-827, pl. xli.  
 Report upon the collections of Hemiptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1873, and 1874, by Prof. P. R. Uhler, pp. 829-842, 1 l., pl. xlii.

Report upon the collections of Orthoptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, by Prof. Cyrus Thomas, pp. 843-908, pls. xliii-xlv.

Report upon the collections of Neuroptera and Pseudo-Neuroptera, made in portions of Colorado, New Mexico, and Arizona during the years 1872, 1873, and 1874, by Dr. H. A. Hagen, pp. 909-922.

Report upon the collections of terrestrial and fluviatile Mollusca made in portions of Colorado, Utah, New Mexico, and Arizona during the years 1872, 1873, and 1874, by Dr. H. C. Yarrow, pp. 923-954.

Report upon the collections of fresh-water leeches made in portions of Nevada, Utah, Colorado, New Mexico, and Arizona during the years 1872, 1873, and 1874, by Prof. A. E. Verrill, pp. 955-967.

Index, pp. 969-1021.

VI. Botany. 1878. xx, 404 pp., 30 pls.

Notes on Colorado, by J. T. Rothrock, surgeon and botanist to the expeditions of 1873, 1874, and 1875, pp. 1-14.

Notes on New Mexico, by J. T. Rothrock, surgeon and botanist to the expeditions of 1873, 1874, and 1875, pp. 15-37.

Notes on economic botany, by J. T. Rothrock, surgeon and botanist to the expeditions of 1873, 1874, and 1875, pp. 39-52.

Catalogue of plants collected in Nevada, Utah, Colorado, New Mexico, and Arizona, with descriptions of those not contained in Gray's Manual of the Northern U. S., and Vol. V, Geological Exploration of the Fortieth Parallel, by J. T. Rothrock, surgeon and botanist to the expeditions of 1873, 1874, and 1875, and the following botanists: Sereno Watson, Cambridge, Mass.; George Engelmann, M. D., St. Louis, Mo.; Prof. T. C. Porter, Easton, Pa.; M. S. Bebb, Fountaindale, Ill.; Wm. Boott, Boston, Mass.; George Vasey, M. D., Agricultural Department, Washington, D. C.; Prof. D. C. Eaton, Yale College, New Haven, Conn.; Thos. P. James, Cambridge, Mass.; Prof. Edward Tuckerman, Amherst, Mass., pp. 53-351.

[Notes on that portion of California traversed by the botanists of the expeditions of 1875, with enumeration of plants collected during that year], pp. 353-378.

Table of orders, p. 379.

Index, pp. 381-400.

Description of plates, pp. 401-404.

VII. Archæology. 1879. xxi, 497 pp., 20 pls., frontispiece. 1 map.

Part I. Reports upon archæological and ethnological collections, by Frederick W. Putnam, curator of the Peabody Museum, Cambridge, Mass., assisted by C. C. Abbott, M. D.; S. S. Haldeman, LL. D.; H. C. Yarrow, M. D.; H. W. Henshaw, and Lucien Carr, assistant curator Peabody Museum.

The southern Californians, pp. 1-31.

Report on the operations of a special party for making ethnological researches in the vicinity of Santa Barbara, Cal., with a short historical account of the region explored, by Dr. H. C. Yarrow, acting assistant surgeon, United States Army, pp. 32-47.

Chipped stone implements, by C. C. Abbott, pp. 49-69, pls. i-iv.

Mortars and pestles, by C. C. Abbott, pp. 70-92, pl. v.

Steatite cooking pots, plates, and food vessels, by C. C. Abbott, pp. 93-116, pl. vi.

The method of manufacture of soapstone pots, by Paul Schumacher, pp. 117-121.

Articles made of wood, by C. C. Abbott, pp. 122-124.

- Smoking pipes of stone, by C. C. Abbott, pp. 125-134, pls. vii-ix.
- Perforated stones, pp. 135-189, pl. x.
- Miscellaneous objects made of stone, by C. C. Abbott, pp. 190-217.
- Sculptures, pp. 218-221.
- Implements and weapons made of bone and wood, by C. C. Abbott and F. W. Putnam, pp. 222-233, pl. xi.
- Musical instruments made of bones, by C. C. Abbott, pp. 234-238.
- Textile fabrics, basket work, etc., pp. 239-250, pl. xiv.
- Ornaments, pp. 251-262, pl. xii.
- Beads, by S. S. Haldeman, pp. 263-271, pl. xiii.
- Iron implements and other articles obtained by contact with Europeans, pp. 272-276, pl. xv.
- Observations on the crania from the Santa Barbara Islands, California, by Lucien Carr, assistant curator of the Peabody Museum American Archaeology and Ethnology, pp. 277-292.
- Translation from the Spanish of the account by the pilot Ferrel of the voyage of Cabrillo along the west coast of North America in 1542, with introductory notes by H. W. Henshaw, pp. 293-314. 1 map.
- Part II. The pueblo ruins and the interior tribes, by Frederick W. Putnam, curator of the Peabody Museum, Cambridge, Mass., pp. 315-397.
- Notes on the pueblos and their inhabitants, by G. Thompson, topographer, pp. 319-324.
- The pueblo of Acoma, by Dr. Oscar Loew, pp. 325-326.
- The pueblo of Taos, by H. C. Yarrow, assistant surgeon, U. S. A., pp. 327-330.
- The pueblo of San Juan, by H. C. Yarrow, assistant surgeon, U. S. A., p. 331.
- The cachina, a dance at the pueblo of Zuñi, by Francis Klett, assistant United States Geographical Surveys west of the one hundredth meridian, pp. 332-336.
- Report on the ruins in New Mexico, by Dr. Oscar Loew, pp. 337-345.
- Report on ruins visited in New Mexico, by Lieut. Rogers Birnie, jr., Thirtieth United States Infantry, pp. 346-350.
- Report on the remains of population observed in northwestern New Mexico, by Prof. E. D. Cope, palaeontologist of expedition of 1874, pp. 351-361.
- Notice of a ruined pueblo and an ancient burial place in the valley of the Rio Chama, by H. C. Yarrow, assistant surgeon, U. S. A., pp. 362-365.
- Notice of the pueblo Pintado and of other ruins in the Chaco Canyon, by Lieut. C. C. Morrison, Sixth United States Cavalry, pp. 366-369.
- Cliff house and cave on Diamond Creek, New Mexico, by H. W. Henshaw, pp. 370-371.
- Ruins in the Cañon de Chelle, pp. 372-373, pl. xx.
- Notes on the implements of stone, pottery, and other objects obtained in New Mexico and Arizona, pp. 374-390, pls. xvi-xix.
- Notes upon human crania and skeletons collected by the expeditions of 1872-1874, by Mark Sibley Severance and Dr. H. C. Yarrow, pp. 391-397.
- Appendix. Linguistics, pp. 399-485.
- Classification into 7 linguistic stocks of western Indian dialects contained in 40 vocabularies, by Albert S. Gatschet, pp. 403-485.
- Index, pp. 487-497.

UNCLASSIFIED PUBLICATIONS.<sup>a</sup>

[1] Tables of camps, distances, lines of march, etc. Surveys and explorations in Nevada and Arizona, Lieut. Geo. M. Wheeler, U. S. Army, in charge. Washington, 1871. Oblong folio, 14 pp.

[2] Tables containing camps, distances, lines of march, latitudes, longitudes, attitudes, etc. Explorations and surveys west of the one hundredth meridian in Utah, Nevada, and Arizona, in charge of 1st Lieut. Geo. M. Wheeler, Corps of Engineers, assisted by 1st Lieuts. R. L. Hoxie and Wm. L. Marshall, Corps of Engineers. Accompanied by a map. Field season of 1872. Washington: Government Printing Office, 1873.

4°. 20 double pages, 1 l., map.

[3] [Vignette] Report upon the determination of the astronomical coordinates of the primary stations at Cheyenne, Wyoming Territory, and Colorado Springs, Colorado Territory, made during the years 1872 and 1873, geographical and geological explorations and surveys west of the one hundredth meridian. First Lieutenant George M. Wheeler, Corps of Engineers, in charge. Dr. F. Kampf and J. H. Clark, civilian astronomical assistants. Washington: Government Printing Office. 1874.

4°. 82 pp.

[4] Engineer Department, U. S. Army. Geographical and geological explorations and surveys west of the one hundredth meridian. First Lieut. Geo. M. Wheeler, Corps of Engineers, in charge. Report upon ornithological specimens collected in the years 1871, 1872, and 1873. Washington: Government Printing Office. 1874.

8°. 148 pp.

Report upon and list of birds collected by the expedition for explorations west of the one hundredth meridian in 1872; Lieut. Geo. M. Wheeler, Corps of Engineers, in charge, by Dr. H. C. Yarrow and Henry W. Henshaw, pp. 5-38.

I. An annotated list of the birds of Utah, by H. W. Henshaw, pp. 39-148.

[5] Engineer Department, U. S. Army. Geographical and geological explorations and surveys west of the one hundredth meridian. First Lieutenant Geo. M. Wheeler, Corps of Engineers, in charge. Catalogue of plants collected in the years 1871, 1872, and 1873, with descriptions of new species. Washington: Government Printing Office. 1874.

8°. 62 pp.

Botanical report, by Sereno Watson, pp. 5-19.

Preliminary report on the botany of central Colorado, pp. 23-62.

[6] Engineer Department, U. S. Army. Geographical and geological explorations and surveys west of the one hundredth meridian.

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<sup>a</sup> Numbered arbitrarily for convenience in reference.

First Lieut. Geo. M. Wheeler, Corps of Engineers, in charge. Preliminary report upon invertebrate fossils collected by the expeditions of 1871, 1872, and 1873, with descriptions of new species. C. A. White, M. D. Washington: Government Printing Office. 1874.

8°. 27 pp.

[7] Geographical and geological explorations and surveys west of the 100th meridian. First Lieut. Geo. M. Wheeler, Corps of Engineers, in charge. Annotated list of birds of Utah, by H. W. Henshaw, ornithologist to the expedition. [From Annals New York Lyceum Natural History, Vol. XI.] Salem: Printed at the Salem Press. 1874.

8°. 14 pp.

[8] Geographical and geological explorations and surveys west of the 100th meridian. First Lieutenant G. M. Wheeler, Corps of Engineers, U. S. A., in charge. On the Plagopterinæ and the ichthyology of Utah, by Edward D. Cope, A. M. Reprinted from the Proceedings of American Philosophical Society, of Philad'a. Philadelphia: McCalla & Stavely, Prs., 237-9 Dock street. 1874.

8°. 14 pp.

[9] Engineer Department, U. S. Army. Geographical explorations and surveys west of the 100th meridian. First Lieut. Geo. M. Wheeler, Corps of Engineers, in charge. Systematic catalogue of vertebrata of the Eocene of New Mexico, collected in 1874. E. D. Cope, A. M., paleontologist. Washington: Government Printing Office. April 17, 1875.

8°. 37 pp.

[10] Engineer Department, U. S. Army. Instructions for taking and recording meteorological observations and for preserving and repairing the instruments; prepared for the use of field and astronomical parties of the expeditions for geographical surveys and explorations west of the one hundredth meridian. Compiled from Colonel Williamson's Use of the Barometer, and from the published instructions of the United States lake survey, with such additions and modifications as have been suggested by the experience of this survey; by First Lieutenants R. L. Hoxie and Wm. L. Marshall, Corps of Engineers, U. S. Army. To which are appended barometrical Tables I to XI, inclusive, of Professional Papers Corps of Engineers, No. 12. Washington: Government Printing Office. 1875.

16°. 64 pp.

[11] Geographical explorations and surveys west of the 100th meridian. Logarithm, Traverse, and Altitude tables. Washington: Government Printing Office. 1875.

8° 30 pp.

[12] Engineer Department, U. S. Army. Instructions for taking, recording, and reducing meteorological observations, and for preserving and repairing the instruments. Prepared for the use of United States Geographical Surveys west of the 100th meridian. First Lieut. Geo. M. Wheeler, Corps of Engineers, U. S. Army, in charge. By First Lieutenants R. L. Hoxie and Wm. L. Marshall, Corps of Engineers, U. S. Army. To which are appended barometrical Tables I to XI, inclusive, of Professional Papers, Corps of Engineers, No. 12. Washington: Government Printing Office. 1876.

8°. 88 pp.

[13] Field list of time stars, for the use of the U. S. Geographical Surveys west of the 100th meridian. Washington. 1878.

8°. 13 pp.

[14] U. S. Geographical Surveys west of the 100th meridian, Lieut. Geo. M. Wheeler, U. S. Army, in charge. List of longitudes, latitudes, and altitudes, being an extract from Vol. II. Washington. 1878.

4°. 22 pp., with blank tables.

[15] Engineer Department, United States Army. Catalogue of the mean declination of 2,018 stars between  $0^h$  to  $2^h$  and  $12^h$  to  $24^h$  right ascension, and  $10^\circ$  and  $70^\circ$  of north declination, for January 1, 1875. Prepared under the direction of First Lieut. Geo. M. Wheeler, Corps of Engineers, U. S. Army, in charge of U. S. Geographical Surveys west of the 100th meridian, by T. H. Safford, Ph. D., Field Memorial Professor of Astronomy in Williams College, Mass. Washington: Government Printing Office. 1879.

4°. 207 pp., 1 l.

[16] [Vignette.] Engineer Department, U. S. Army. Tables of geographic positions, azimuths, and distances, together with lists of barometric altitudes, magnetic declinations, and itineraries of important routes, prepared principally by First Lieut. M. M. Macomb, 4th U. S. Artillery, assistant, from data gathered by parties of the United States Geographical Surveys west of the 100th meridian, operating in the States and Territories of California, Colorado, Nebraska, Nevada, Oregon, Arizona, Idaho, Montana, New Mexico, and Wyoming, under the direction of Capt. Geo. M. Wheeler, Corps of Engineers, U. S. Army, in charge. 1883. Washington: Government Printing Office. 1885.

4°. 261 pp.

## MAPS.

The following maps were issued in addition to those accompanying the annual reports and other publications. The greater part of these constitute parts of an atlas which it was intended should embrace all of the United States west of the one hundredth meridian. These sheets include topographic, geologic, and land-classification maps. The others are maps of special areas. All the atlas sheets and special maps issued are listed below.

## ATLAS SHEETS.

## TOPOGRAPHIC MAPS.

*Topographic atlas sheets, arranged by States.*

## ARIZONA.

| No.                   | Limiting meridians. |    |   |    |     |    | Limiting parallels. |    |    |    | Area.      | Scale. | Remarks. |           |                                 |
|-----------------------|---------------------|----|---|----|-----|----|---------------------|----|----|----|------------|--------|----------|-----------|---------------------------------|
|                       | °                   | '  | " | °  | '   | "  | °                   | '  | "  | '  | Sq. miles. |        |          |           |                                 |
| 66.....               | 113                 | 45 | 0 | to | 116 | 30 | 0                   | 35 | 40 | to | 37         | 20     | 17,588   | 1: 506880 | Hachure map, 4 editions.        |
| 67 <sup>a</sup> ..... | 111                 | 0  | 0 | to | 113 | 45 | 0                   | 35 | 40 | to | 37         | 20     | 17,588   | 1: 506880 | 2 editions, hachure and shaded. |
| 75 <sup>a</sup> ..... | 111                 | 0  | 0 | to | 113 | 45 | 0                   | 34 | 0  | to | 35         | 40     | 17,952   | 1: 506880 | Hachuré map.                    |
| 76 <sup>a</sup> ..... | 108                 | 15 | 0 | to | 111 | 0  | 0                   | 34 | 0  | to | 35         | 40     | 17,952   | 1: 506880 | Do.                             |
| 83 <sup>a</sup> ..... | 108                 | 15 | 0 | to | 111 | 0  | 0                   | 32 | 20 | to | 34         | 0      | 18,302   | 1: 506880 | Do.                             |

## CALIFORNIA.

|                                |     |    |    |    |     |    |    |    |    |    |    |    |        |           |   |
|--------------------------------|-----|----|----|----|-----|----|----|----|----|----|----|----|--------|-----------|---|
| 38 B.....                      | 119 | 15 | 0  | to | 120 | 37 | 30 | 41 | 30 | to | 42 | 20 | 4,075  | 1: 253440 | Hachure map.                              |
| 38 D.....                      | 119 | 15 | 0  | to | 120 | 37 | 30 | 40 | 40 | to | 41 | 30 | 4,127  | 1: 253440 | Do.                                       |
| 47 A <sup>b</sup> .....        | 120 | 37 | 30 | to | 122 | 0  | 0  | 39 | 50 | to | 40 | 40 | 4,178  | 1: 253440 | Do.                                       |
| 47 B.....                      | 119 | 15 | 0  | to | 120 | 37 | 30 | 39 | 50 | to | 40 | 40 | 4,178  | 1: 253440 | Do.                                       |
| 47 D.....                      | 119 | 15 | 0  | to | 120 | 37 | 30 | 39 | 0  | to | 39 | 50 | 4,228  | 1: 253440 | Do.                                       |
| 47 B and<br>47 D. <sup>b</sup> | 119 | 15 | 0  | to | 120 | 37 | 30 | 38 | 55 | to | 40 | 40 | 8,832  | 1: 253440 | 2 editions; 1 with and 1 without hachure. |
| 56 B.....                      | 119 | 15 | 0  | to | 120 | 37 | 30 | 38 | 10 | to | 39 | 0  | 4,278  | 1: 253440 | Hachure map.                              |
| 56 D.....                      | 119 | 15 | 0  | to | 120 | 37 | 30 | 37 | 20 | to | 38 | 10 | 4,326  | 1: 253440 | Do.                                       |
| 57.....                        | 116 | 30 | 0  | to | 119 | 15 | 0  | 37 | 20 | to | 39 | 0  | 17,209 | 1: 506880 | Do.                                       |
| 65.....                        | 116 | 30 | 0  | to | 119 | 15 | 0  | 35 | 40 | to | 37 | 20 | 17,588 | 1: 506880 | Do.                                       |
| 65 D <sup>b</sup> .....        | 116 | 30 | 0  | to | 117 | 52 | 30 | 35 | 40 | to | 36 | 30 | 4,420  | 1: 253440 | Do.                                       |
| 66.....                        | 113 | 45 | 0  | to | 116 | 30 | 0  | 35 | 40 | to | 37 | 20 | 17,588 | 1: 506880 | Hachure map; 4 editions.                  |
| 73.....                        | 116 | 30 | 0  | to | 119 | 15 | 0  | 34 | 00 | to | 35 | 40 | 15,167 | 1: 506880 | Hachure map.                              |
| 73 A <sup>b</sup> .....        | 117 | 52 | 30 | to | 119 | 15 | 0  | 34 | 50 | to | 35 | 40 | 4,466  | 1: 253440 | Do.                                       |
| 73 C <sup>b</sup> .....        | 117 | 52 | 30 | to | 119 | 15 | 0  | 34 | 0  | to | 34 | 50 | 4,610  | 1: 253440 | Do.                                       |

<sup>a</sup> Geologic map also issued for this area.

<sup>b</sup> Land classification map also issued for this area.



*Topographic atlas sheets, arranged by States—Continued.*

## COLORADO.

| No.        | Limiting meridians. |              | Limiting parallels. |          | Area.  | Scale.    | Remarks.  |
|------------|---------------------|--------------|---------------------|----------|--------|-----------|---|
|            | ° ' "               | ° ' "        | ° ' "               | ° ' "    |        |           |   |
| 52 D a.... | 105 30 0            | to 106 52 30 | 39 0                | to 39 50 | 4,228  | 1: 253440 | Hachure map.  |
| 53 C.....  | 104 7 30            | to 105 30 0  | 39 0                | to 39 50 | 4,228  | 1: 253440 | Do.   |
| 61 A a.... | 106 52 30           | to 108 15 0  | 38 10               | to 39 0  | 4,278  | 1: 253440 | 2 editions; hachure map and contour map.            |
| 61 B a.... | 105 30 0            | to 106 52 30 | 38 10               | to 39 0  | 4,278  | 1: 253440 | Hachure map, 3 editions.                            |
| 61 C a.... | 106 52 30           | to 108 15 0  | 37 20               | to 38 10 | 4,326  | 1: 253440 | 3 editions, first without relief, other 2 hachured. |
| 61 C a.... | 107 15 0            | to 107 57 0  | 37 42               | to 38 7  | 1,100  | 1: 126720 | Contour map; 3 editions.                            |
| 61 D a.... | 105 30 0            | to 106 52 30 | 37 20               | to 38 10 | 4,326  | 1: 253440 | Hachure map.  |
| 62 A a.... | 104 7 30            | to 105 30 0  | 38 10               | to 39 0  | 4,278  | 1: 253440 | Hachure map; 2 editions.                            |
| 62 C a.... | 104 7 30            | to 105 30 0  | 37 20               | to 38 10 | 4,326  | 1: 253440 | Do.   |
| 62 D.....  | 102 45 0            | to 104 7 30  | 37 20               | to 38 10 | 4,326  | 1: 253440 | Hachure map.  |
| 69.....    | 105 30 0            | to 108 15 0  | 35 40               | to 37 20 | 17,588 | 1: 506880 | Do.   |
| 69 B b.... | 105 30 0            | to 106 52 30 | 36 30               | to 37 20 | 4,374  | 1: 253440 | Do.   |
| 70 A b.... | 104 7 30            | to 105 30 0  | 36 30               | to 37 20 | 4,374  | 1: 253440 | Do.   |

## IDAHO.

|            |           |              |       |          |       |           |              |
|------------|-----------|--------------|-------|----------|-------|-----------|--------------|
| 32 C a.... | 112 22 30 | to 113 45 0  | 42 20 | to 43 10 | 4,023 | 1: 253440 | Hachure map. |
| 32 D a.... | 111 0 0   | to 112 22 30 | 42 20 | to 43 10 | 4,023 | 1: 253440 | Do.          |
| 41 A a.... | 112 22 30 | to 113 45 0  | 41 30 | to 42 20 | 4,075 | 1: 253440 | Do.          |
| 41 B a.... | 111 0 0   | to 112 22 30 | 41 30 | to 42 20 | 4,075 | 1: 253440 | Do.          |

## NEVADA.

|                        |           |              |       |          |        |           |  |
|------------------------|-----------|--------------|-------|----------|--------|-----------|--|
| 38 B.....              | 119 15 0  | to 120 37 30 | 41 30 | to 42 20 | 4,075  | 1: 253440 | Hachure map.                               |
| 38 D a....             | 119 15 0  | to 120 37 30 | 40 40 | to 41 30 | 4,127  | 1: 253440 | Do.  |
| 47 B.....              | 119 15 0  | to 120 37 30 | 39 50 | to 40 40 | 4,178  | 1: 253440 | Do.  |
| 47 D.....              | 119 15 0  | to 120 37 30 | 39 0  | to 39 50 | 4,228  | 1: 253440 | Do.  |
| 47 B and<br>47 D a.... | 119 15 0  | to 120 37 30 | 38 55 | to 40 40 | 8,832  | 1: 253440 | 2 editions; 1 with and 1 without hachures. |
| 48 C.....              | 117 52 30 | to 119 15 0  | 39 0  | to 39 50 | 4,228  | 1: 253440 | Hachure map.                               |
| 48 D.....              | 116 30 0  | to 117 52 30 | 39 0  | to 39 50 | 4,228  | 1: 253440 | Do.  |
| 49.....                | 113 45 0  | to 116 30 0  | 39 0  | to 40 40 | 16,814 | 1: 506880 | 2 editions; hachure and shaded.            |
| 56 B.....              | 119 15 0  | to 120 37 30 | 38 10 | to 39 0  | 4,278  | 1: 253440 | Do.  |
| 57.....                | 116 30 0  | to 119 15 0  | 37 20 | to 39 0  | 17,209 | 1: 506880 | Do.  |
| 58.....                | 113 45 0  | to 116 30 0  | 37 20 | to 39 0  | 17,208 | 1: 506880 | 4 editions; 3 hachured and 1 shaded.       |
| 65.....                | 116 30 0  | to 119 15 0  | 35 40 | to 37 20 | 17,588 | 1: 506880 | Hachure map.                               |
| 66.....                | 113 45 0  | to 116 30 0  | 35 40 | to 37 20 | 17,588 | 1: 506880 | Hachure map; 4 editions.                   |

a Land classification map also issued for this area.

b Land classification and geologic maps also issued for this area.

*Topographic atlas sheets, arranged by States—Continued.*

## NEW MEXICO.

| No.         | Limiting meridians.   | Limiting parallels. | Area.      | Scale.    | Remarks.                 |
|-------------|-----------------------|---------------------|------------|-----------|--------------------------|
|             | ° ' " ° ' "           | ° ' ° ' "           | Sq. miles. |           |                          |
| 69.....     | 105 30 0 to 108 15 0  | 35 40 to 37 20      | 17,588     | 1: 506880 | Hachure map.             |
| 69 B a..... | 105 30 0 to 106 52 30 | 36 30 to 37 20      | 4,374      | 1: 253440 | Do.                      |
| 69 D a..... | 105 30 0 to 106 52 30 | 35 40 to 36 30      | 4,420      | 1: 253440 | Hachure map; 3 editions. |
| 70 A b..... | 104 7 30 to 105 30 0  | 36 30 to 37 20      | 4,374      | 1: 253440 | Hachure map.             |
| 70 C b..... | 104 7 30 to 105 30 0  | 35 40 to 36 30      | 4,420      | 1: 253440 | Do.                      |
| 76 c.....   | 108 15 0 to 111 0 0   | 34 0 to 35 40       | 17,952     | 1: 506880 | Do.                      |
| 77 a.....   | 105 30 0 to 108 15 0  | 34 0 to 35 40       | 17,952     | 1: 506880 | Do.                      |
| 77 B a..... | 105 30 0 to 106 52 30 | 34 50 to 35 40      | 4,465      | 1: 253440 | Do.                      |
| 77 D a..... | 105 30 0 to 106 52 30 | 34 0 to 34 50       | 4,510      | 1: 253440 | Do.                      |
| 78 A a..... | 104 7 30 to 105 30 0  | 34 50 to 35 40      | 4,465      | 1: 253440 | Do.                      |
| 83 c.....   | 108 15 0 to 111 0 0   | 32 20 to 34 0       | 18,302     | 1: 506880 | Do.                      |
| 84 a.....   | 105 30 0 to 108 15 0  | 32 20 to 34 0       | 18,302     | 1: 506880 | Do.                      |
| 84 B a..... | 105 30 0 to 106 52 30 | 33 10 to 34 0       | 4,554      | 1: 253440 | Hachure map; 2 editions. |
| 84 C a..... | 106 52 30 to 108 15 0 | 32 20 to 33 10      | 4,597      | 1: 253440 | Hachure map.             |

## OREGON.

|           |                       |                |       |           |              |
|-----------|-----------------------|----------------|-------|-----------|--------------|
| 38 B..... | 119 15 0 to 120 37 30 | 41 30 to 42 20 | 4,075 | 1: 253440 | Hachure map. |
|-----------|-----------------------|----------------|-------|-----------|--------------|

## UTAH.

|             |                       |                |        |           |                                 |
|-------------|-----------------------|----------------|--------|-----------|---------------------------------|
| 41 A a..... | 112 22 30 to 113 45 0 | 41 30 to 42 20 | 4,075  | 1: 253440 | Hachure map.                    |
| 41 B a..... | 111 0 0 to 112 22 30  | 40 30 to 42 20 | 4,075  | 1: 253440 | Do.                             |
| 49.....     | 113 45 0 to 116 30 0  | 39 0 to 40 40  | 16,814 | 1: 506880 | 2 editions; hachure and shaded. |
| 50 b.....   | 111 0 0 to 113 45 0   | 39 0 to 40 40  | 16,814 | 1: 506880 | 4 editions; 3 hachure 1 shaded. |
| 58.....     | 113 45 0 to 116 30 0  | 37 20 to 39 0  | 17,208 | 1: 506880 | Do.                             |
| 59 b.....   | 111 0 0 to 113 45 0   | 37 20 to 39 0  | 17,208 | 1: 506880 | 6 editions; 5 hachure 1 shaded. |
| 66.....     | 113 45 0 to 116 30 0  | 35 40 to 37 20 | 17,588 | 1: 506880 | Hachure map; 4 editions.        |
| 67.....     | 111 0 0 to 113 45 0   | 35 40 to 37 20 | 17,588 | 1: 506880 | Hachure and shaded.             |

## WYOMING.

|             |                      |                |       |           |              |
|-------------|----------------------|----------------|-------|-----------|--------------|
| 32 D a..... | 110 0 0 to 112 22 30 | 42 20 to 43 10 | 4,023 | 1: 253440 | Hachure map. |
|-------------|----------------------|----------------|-------|-----------|--------------|

<sup>a</sup> Land classification map also issued for this area.

<sup>b</sup> Land classification and geologic maps also issued for this area.

<sup>c</sup> Geologic maps also issued for this area.

## GEOLOGIC MAPS.

*Geologic maps, arranged by States.<sup>a</sup>*

## ARIZONA.

| No.     | Limiting meridians. |    |   |    |     |    | Limiting parallels. |    |    |    | Area.             | Scale. | Remarks.                  |        |            |
|---------|---------------------|----|---|----|-----|----|---------------------|----|----|----|-------------------|--------|---------------------------|--------|------------|
|         | °                   | '  | " | °  | '   | "  | °                   | '  | °  | '  | <i>Sq. miles.</i> |        | On sheet with part of 58. |        |            |
| 66..... | 113                 | 45 | 0 | to | 114 | 48 | 40                  | 35 | 40 | to | 37                | 20     |                           | 6,960  | 1 : 506880 |
| 67..... | 111                 | 0  | 0 | to | 113 | 45 | 0                   | 35 | 40 | to | 37                | 20     |                           | 17,588 | 1 : 506880 |
| 75..... | 111                 | 0  | 0 | to | 113 | 45 | 0                   | 34 | 0  | to | 35                | 40     |                           | 17,952 | 1 : 506880 |
| 76..... | 108                 | 15 | 0 | to | 111 | 0  | 0                   | 34 | 0  | to | 35                | 40     |                           | 17,952 | 1 : 506880 |
| 83..... | 108                 | 15 | 0 | to | 111 | 0  | 0                   | 32 | 20 | to | 34                | 0      |                           | 18,302 | 1 : 506880 |

## COLORADO.

|                         |     |    |    |    |     |    |   |                |       |            |  |
|-------------------------|-----|----|----|----|-----|----|---|----------------|-------|------------|--|
| 69 B .....              | 105 | 30 | 0  | to | 105 | 50 | 0 | 36 35 to 37 20 | 988   | 1 : 253440 | On sheet with parts of 69 D, 77 B, and 78 A. |
| 70 A <sup>b</sup> ..... | 104 | 7  | 30 | to | 105 | 30 | 0 | 36 30 to 37 20 | 4,374 | 1 : 253440 |  |

## NEVADA.

|         |     |    |   |    |     |    |    |                |       |            |                              |
|---------|-----|----|---|----|-----|----|----|----------------|-------|------------|------------------------------|
| 58..... | 113 | 45 | 0 | to | 114 | 50 | 40 | 37 20 to 39 0  | 6,860 | 1 : 506880 | On sheet with portion of 66. |
| 66..... | 113 | 45 | 0 | to | 114 | 48 | 40 | 35 40 to 37 20 | 6,960 | 1 : 506880 | On sheet with portion of 58. |

## NEW MEXICO.

|                         |                      |                |        |            |  |
|-------------------------|----------------------|----------------|--------|------------|--|
| 69 B .....              | 105 30 0 to 105 50 0 | 36 35 to 37 20 | 988    | 1 : 253440 | On sheet with parts of 69 D, 77 B, and 78 A. |
| 69 D .....              | 105 30 0 to 105 58 0 | 35 40 to 36 30 | 935    | 1 : 253440 |  |
| 70 A <sup>b</sup> ..... | 104 7 30 to 105 30 0 | 36 30 to 37 20 | 4,374  | 1 : 253440 | On sheet with parts of 69 B, 77 B, and 78 A. |
| 70 C <sup>b</sup> ..... | 104 7 30 to 105 30 0 | 35 40 to 36 30 | 4,420  | 1 : 253440 |  |
| 76.....                 | 108 15 0 to 111 0 0  | 34 0 to 35 40  | 17,952 | 1 : 506880 | {On sheet with parts of 69 B and 69 D.       |
| 77 B .....              | 105 5 0 to 106 15 0  | 35 15 to 35 40 | 1,834  | 1 : 253440 |  |
| 78 A .....              |                      |                |        |            |  |
| 83.....                 | 108 15 0 to 111 0 0  | 32 20 to 34 0  | 18,302 | 1 : 506880 |  |

## UTAH.

|         |     |    |   |    |     |    |    |                |        |            |                              |
|---------|-----|----|---|----|-----|----|----|----------------|--------|------------|------------------------------|
| 50..... | 111 | 0  | 0 | to | 113 | 45 | 0  | 39 0 to 40 40  | 16,814 | 1 : 506880 | On sheet with portion of 66. |
| 58..... | 113 | 45 | 0 | to | 114 | 50 | 40 | 37 20 to 39 0  | 6,860  | 1 : 506880 |                              |
| 59..... | 111 | 0  | 0 | to | 113 | 45 | 0  | 37 20 to 39 0  | 17,208 | 1 : 506880 |                              |
| 66..... | 113 | 45 | 0 | to | 114 | 48 | 40 | 35 40 to 37 20 | 6,960  | 1 : 506880 | On sheet with portion of 58. |
| 67..... | 111 | 0  | 0 | to | 113 | 45 | 0  | 35 40 to 37 20 | 17,588 | 1 : 506880 |                              |

<sup>a</sup> Topographic maps issued for all these areas.<sup>b</sup> Land classification map also issued for this area.

## LAND CLASSIFICATION MAPS.

*Land classification maps, arranged by States.*

## CALIFORNIA.

| No.               | Limiting meridians. |    |    |    |     |    | Limiting parallels. |    |    |    | Area.             | Scale. | Remarks. |           |                          |
|-------------------|---------------------|----|----|----|-----|----|---------------------|----|----|----|-------------------|--------|----------|-----------|--------------------------|
|                   | o                   | '  | "  | o  | '   | "  | o                   | '  | o  | '  | <i>Sq. miles.</i> |        |          |           |                          |
| 38 D .....        | 119                 | 15 | 0  | to | 120 | 37 | 30                  | 40 | 40 | to | 41                | 30     | 4, 127   | 1: 253440 | Hachure map.             |
| 47 A .....        | 120                 | 37 | 30 | to | 122 | 0  | 0                   | 39 | 50 | to | 40                | 40     | 4, 178   | 1: 253440 | Do.                      |
| 47 B and<br>47 D. | 119                 | 15 | 0  | to | 120 | 37 | 30                  | 38 | 55 | to | 40                | 40     | 8, 832   | 1: 253440 | Do.                      |
| 65 D .....        | 116                 | 30 | 0  | to | 117 | 52 | 30                  | 35 | 40 | to | 36                | 30     | 4, 420   | 1: 253440 | Hachure map; 3 editions. |
| 73 A .....        | 117                 | 52 | 30 | to | 119 | 15 | 0                   | 34 | 50 | to | 35                | 40     | 4, 465   | 1: 253440 | Hachure map.             |
| 73 C.....         | 117                 | 52 | 30 | to | 119 | 15 | 0                   | 34 | 0  | to | 34                | 50     | 4, 510   | 1: 253440 | Do.                      |

## COLORADO.

|            |     |    |    |    |     |    |    |    |    |    |    |    |       |           |                          |
|------------|-----|----|----|----|-----|----|----|----|----|----|----|----|-------|-----------|--------------------------|
| 52 D ..... | 105 | 30 | 0  | to | 106 | 52 | 30 | 39 | 0  | to | 39 | 50 | 4,228 | 1: 253440 | Hachure map.             |
| 61 A ..... | 106 | 52 | 30 | to | 108 | 15 | 0  | 38 | 10 | to | 39 | 0  | 4,278 | 1: 253440 | Contour map.             |
| 61 B ..... | 105 | 30 | 0  | to | 106 | 52 | 30 | 38 | 10 | to | 39 | 0  | 4,278 | 1: 253440 | Hachure map.             |
| 61 C ..... | 106 | 52 | 30 | to | 108 | 15 | 0  | 37 | 20 | to | 38 | 10 | 4,326 | 1: 253440 | Do.                      |
| 61 C ..... | 107 | 15 | 0  | to | 107 | 57 | 0  | 37 | 12 | to | 38 | 7  | 1,100 | 1: 126720 | Contour map.             |
| 61 D ..... | 105 | 30 | 0  | to | 106 | 52 | 30 | 37 | 20 | to | 38 | 10 | 4,326 | 1: 253440 | Hachure map.             |
| 62 A ..... | 104 | 7  | 30 | to | 105 | 30 | 0  | 38 | 10 | to | 39 | 0  | 4,278 | 1: 253440 | Do.                      |
| 62 C ..... | 104 | 7  | 30 | to | 105 | 30 | 0  | 37 | 20 | to | 38 | 10 | 4,326 | 1: 253440 | Do.                      |
| 69 B ..... | 105 | 30 | 0  | to | 106 | 52 | 30 | 36 | 30 | to | 37 | 20 | 4,374 | 1: 253440 | Do.                      |
| 70 A ..... | 104 | 7  | 30 | to | 105 | 30 | 0  | 36 | 30 | to | 37 | 20 | 4,374 | 1: 253440 | Hachure map; 2 editions. |

## IDAHO.

|            |     |    |    |    |     |    |    |    |    |    |    |    |       |           |              |
|------------|-----|----|----|----|-----|----|----|----|----|----|----|----|-------|-----------|--------------|
| 32 C ..... | 112 | 22 | 30 | to | 113 | 45 | 0  | 42 | 20 | to | 43 | 10 | 4,023 | 1: 253440 | Hachure map. |
| 32 D ..... | 111 | 0  | 0  | to | 112 | 22 | 30 | 42 | 20 | to | 43 | 10 | 4,023 | 1: 253440 | Do.          |
| 41 A ..... | 112 | 22 | 30 | to | 113 | 45 | 0  | 41 | 30 | to | 42 | 20 | 4,075 | 1: 253440 | Do.          |
| 41 B ..... | 111 | 0  | 0  | to | 112 | 22 | 30 | 41 | 30 | to | 42 | 20 | 4,075 | 1: 253440 | Do.          |

## NEVADA.

|                   |     |    |   |    |     |    |    |    |    |    |    |    |       |           |              |
|-------------------|-----|----|---|----|-----|----|----|----|----|----|----|----|-------|-----------|--------------|
| 38 D .....        | 119 | 15 | 0 | to | 120 | 37 | 30 | 40 | 40 | to | 41 | 30 | 4,127 | 1: 253440 | Hachure map. |
| 47 B and<br>47 D. | 119 | 15 | 0 | to | 120 | 37 | 30 | 38 | 55 | to | 40 | 40 | 8,832 | 1: 253440 | Do.          |

## NEW MEXICO.

|            |     |    |    |    |     |    |    |    |    |    |    |    |        |           |                          |
|------------|-----|----|----|----|-----|----|----|----|----|----|----|----|--------|-----------|--------------------------|
| 69 B ..... | 105 | 30 | 0  | to | 106 | 52 | 30 | 36 | 30 | to | 37 | 20 | 4,374  | 1: 253440 | Hachure map.             |
| 69 D ..... | 105 | 30 | 0  | to | 106 | 52 | 30 | 35 | 40 | to | 36 | 30 | 4,420  | 1: 253440 | Do.                      |
| 70 A ..... | 104 | 7  | 30 | to | 105 | 30 | 0  | 36 | 30 | to | 37 | 20 | 4,374  | 1: 253440 | Hachure map; 2 editions. |
| 70 C ..... | 104 | 7  | 30 | to | 105 | 30 | 0  | 35 | 40 | to | 36 | 30 | 4,420  | 1: 253440 | Hachure map.             |
| 77 .....   | 105 | 30 | 0  | to | 108 | 15 | 0  | 34 | 0  | to | 35 | 40 | 17,952 | 1: 506880 | Do.                      |
| 77 B ..... | 105 | 30 | 0  | to | 106 | 52 | 30 | 34 | 50 | to | 35 | 40 | 4,464  | 1: 253440 | Do.                      |
| 77 D ..... | 105 | 30 | 0  | to | 106 | 52 | 30 | 34 | 0  | to | 34 | 50 | 4,510  | 1: 253440 | Do.                      |
| 78 A ..... | 104 | 7  | 30 | to | 105 | 30 | 0  | 34 | 50 | to | 35 | 40 | 4,465  | 1: 253440 | Do.                      |
| 84 .....   | 105 | 30 | 0  | to | 108 | 15 | 0  | 32 | 20 | to | 34 | 0  | 18,302 | 1: 506880 | Do.                      |
| 84 B ..... | 105 | 30 | 0  | to | 106 | 52 | 30 | 33 | 10 | to | 34 | 0  | 4,554  | 1: 253440 | Do.                      |
| 84 C ..... | 106 | 52 | 30 | to | 108 | 15 | 0  | 32 | 20 | to | 33 | 10 | 4,597  | 1: 253440 | Do.                      |

<sup>a</sup> Geologic map also issued for these areas.

*Land classification maps, arranged by States—Continued.*

## UTAH.

| No.        | Limiting meridians.   | Limiting parallels. | Area.      | Scale.    | Remarks.     |
|------------|-----------------------|---------------------|------------|-----------|--------------|
|            | ° ' " ° ' "           | ° ' ° '             | Sq. miles. |           |              |
| 41 A ..... | 112 22 30 to 113 45 0 | 41 30 to 42 20      | 4,075      | 1: 253440 | Hachure map. |
| 41 B ..... | 111 0 0 to 112 22 30  | 41 30 to 42 20      | 4,075      | 1: 253440 | Do.          |

## WYOMING.

|            |                      |                |       |           |              |
|------------|----------------------|----------------|-------|-----------|--------------|
| 32 D ..... | 110 0 0 to 112 22 30 | 42 20 to 43 10 | 4,023 | 1: 253440 | Hachure map. |
|------------|----------------------|----------------|-------|-----------|--------------|

## SPECIAL MAPS.

Map of the United States west of the Mississippi River, showing drainage areas. Scale, 1: 6,000,000.

Yosemite Valley, California. Hachure map. Limiting meridians,  $119^{\circ} 28'$  and  $119^{\circ} 43'$ ; limiting parallels,  $37^{\circ} 40'$  and  $37^{\circ} 48'$ . Scale, 1: 42,240.

Lake Tahoe region, California-Nevada. Hachure map. Limiting meridians,  $119^{\circ} 33'$  and  $120^{\circ} 22' 30''$ ; limiting parallels,  $38^{\circ} 45'$  and  $39^{\circ} 32'$ . Scale, 1: 84,480.

Lake Tahoe region, California-Nevada. Hachure map. Limiting meridians,  $119^{\circ} 33'$  and  $120^{\circ} 22' 30''$ ; limiting parallels,  $38^{\circ} 45'$  and  $39^{\circ} 32'$ . Scale, 1: 126,720.

Washoe district, Nevada, showing Comstock lode. Limiting meridians,  $119^{\circ} 34'$  and  $119^{\circ} 41' 30''$ ; limiting parallels,  $39^{\circ} 13' 30''$  and  $39^{\circ} 20' 20''$ . Scale, 1: 24,000.

Washoe district, Nevada. Contour map. Limiting meridians,  $119^{\circ} 32' 30''$  and  $119^{\circ} 43'$ ; limiting parallels,  $39^{\circ} 10' 10''$  and  $39^{\circ} 21' 15''$ . Scale, 1: 24,000.

Washoe mining region, Nevada. Contour map, 2 sheets. Limiting meridians,  $119^{\circ} 32' 30''$  and  $119^{\circ} 43'$ ; limiting parallels,  $39^{\circ} 10' 10''$  and  $39^{\circ} 21'$ . Scale, 1: 18,000.

Reconnaissance map of southeastern Nevada. Scale, 1: 760,320.

Map showing extent of Lake Bonneville, Utah-Nevada. Shaded map. Limiting meridians,  $111^{\circ} 45'$  and  $115^{\circ} 15'$ ; limiting parallels,  $37^{\circ} 30'$  and  $42^{\circ}$ . Scale, 1: 887,040.

Map showing distances, camps, etc., in Utah, field season of 1872. Scale, 1: 950,400.

Map of part of southwestern New Mexico. Limiting meridians,  $106^{\circ} 36'$  and  $109^{\circ}$ ; limiting parallels,  $32^{\circ} 20'$  and  $34^{\circ}$ . Scale, 1: 633,600.



# INDEX.

- AL=Lands of the Arid region (see p. 42).  
 BH=Geology of Black Hills of Dakota (see p. 42).  
 ECR=Exploration of Colorado River of the West (see p. 41).  
 Eth, I, etc=Contributions to American Ethnology, vol I, etc. (see p. 43).  
 HM=Geology of Henry Mountains of Utah (see p. 42).  
 HP=Geology of High Plateaus of Utah (see p. 42).  
 H, Ann 1, etc=Annual Reports of Hayden Survey (see pp. 9-20).  
 H, Bull, vol I, etc=Bulletins of the Hayden Survey (see pp. 21-30).  
 H, Misc 1, etc=Miscellaneous publications of the Hayden Survey (see pp. 31-32).  
 H, Mon 1, etc=Monographs or final reports of the Hayden Survey (see pp. 20-21).  
 H, Uncl 1, etc=Unclassified publications of the Hayden Survey, numbered arbitrarily (see pp. 32-34).  
 K, 1871 etc=Administrative reports of the King Survey for the year mentioned (see pp. 38-39).  
 K, I, etc=Final Reports of the King Survey (see p. 39).  
 LOR=Land Office Report for the year mentioned.  
 PBH=Preliminary Report on the Palcontology of the Black Hills (see p. 42).  
 UM=Geology of Uinta Mountains (see p. 42).  
 W, 1869, etc=Annual reports of Wheeler Survey for the year mentioned (see pp. 44-52).  
 W, I, etc=Volumes of Final Reports of Wheeler Survey (see pp. 52-56).  
 W, Uncl 1, etc=Unclassified publications of the Wheeler Survey, numbered arbitrarily (see pp. 57-59).

- Abajo Mountains, Utah, geology of.....H, Ann 10,  
 pp 189-193, 239; H, Bull, vol III, No 3, p 558  
 Abbott (C. C.), articles made of wood, found in graves in southern Cali-  
 fornia.....W, VII, pp 122-124  
 miscellaneous objects made of stone, from graves of southern Cali-  
 fornia.....W, VII, pp 190-217  
 mortars and pestles from graves in southern California.....W, VII, pp 70-92  
 musical instruments made of bones.....W, VII, pp 234-238  
 steatite cooking pots, plates, and food vessels .....W, VII, pp 93-116  
 stone implements of southern California.....W, VII, pp 49-69  
 Abbott (C. C.) and Putnam (F. W.), implements and weapons made of bone  
 and wood.....W, VII, pp 222-233  
 Abiquiu region, New Mexico, geology of.....W, 1875, pp 101-103  
 Aborigines, houses and house-life of the American .....Eth, IV  
 of southern California.....W, VII, pp 1-31  
 (See, also, Ethnology and archæology.)  
 Acoma, New Mexico, pueblo at.....W, VII, pp 325-326  
 Acrididæ of North America, synopsis of.....H, Mon V  
 (See, also, Invertebrates.)  
 Agricultural resources of Arizona, eastern, and New Mexico, western.....W, III,  
 pp 573-597  
 of Colorado .....H, Ann 3, pp 131-155; H, Ann 1-3, pp 229-251  
 southern, and New Mexico, northern.....W, III,  
 Supp, pp 360-388; W, 1875, pp 129-139  
 of Colorado and Wyoming.....H, Ann 4, pp 191-264  
 of New Mexico, northern, and Colorado, southern.....W, III,  
 Supp, pp 360-388; W, 1875, pp 129-139  
 western, and Arizona, eastern.....W, III, pp 573-597

- Agricultural resources of Territories .....H, Ann 5, pp 205-279  
of Wyoming and Colorado.....H, Ann 4, pp 191-264  
Agricultural and physical features of southern California, especially of the  
Mohave Desert.....W, 1876, pp 214-222  
Agriculture and economic botany of portions of southern California .....W, 1876,  
pp 202-213  
Agrostis, North American species of, preliminary list and descriptions of...H, Bull,  
vol vi, No 1, pp 149-164  
(See, also, Plants.)  
Aiken (C. E.), notes on ornithology of portions of New Mexico and Ari-  
zona.....W, 1875, pp 150-153  
Ainslie (G.), notes on the grammar of the Nez Percés language.....H, Bull, vol ii,  
No 3, pp 271-277  
Alaska, Aleutian Islands, shell heaps of.....Eth, i, pp 41-91  
Indian tribes of .....Eth, i, pp 1-106  
natives of, notes on.....Eth, i, pp 111-116  
Aleutian Islands, shell heaps of, on succession in .....Eth, i, pp 41-91  
Alida district, Nevada, notes on .....W, 1871, p 47  
Alkali, analysis of, from Wyoming, Independence Rock, Pacific Springs, and  
Sweetwater Valley .....H, Ann 4, pp 187, 188  
Alkaline efflorescences, analysis of, from Wyoming, Sweetwater district...H, Ann 11,  
p 150  
Allen (G. N.), irrigation in Santa Clara Valley, California ....H, Ann 5, pp 269-271  
Allen (J. A.), description of a fossil passerine bird from the insect-bearing  
shales of Colorado.....H, Bull, vol iv, No 2, pp 443-445  
geographical distribution of the Mammalia, considered in relation to the  
principal ontological regions of the earth, and the laws that  
govern the distribution of animal life .....H, Bull, vol iv, No 2,  
pp 313-377  
geographical variation among North American mammals, especially in  
respect to size .....H, Bull, vol ii, No 4, pp 308-344  
history of North American Pinnipeds .....H, Miscel 12  
history of the American bison .....H, Ann 9, pp 443-558  
on the Coatis (genus *Nasua* Storr) .....H, Bull, vol v, No 2, pp 153-174  
on the species of the genus *Bassaris*.....H, Bull, vol v, No 3, pp 331-340  
preliminary list of works and papers relating to the mammalian orders  
Cete and Sirenia.....H, Bull, vol vi, No 3, pp 399-562  
sexual, individual, and geographical variation in *Leucosticte tephrocotis*  
.....H, Bull, vol ii, No 4, pp 345-350  
synonymatic list of American Sciuri or arboreal squirrels...H, Bull, vol iv, No 4,  
pp 877-887  
Allen (J. A.) and Coues (E.), monograph of North American Rodentia...H, Mon xi  
Alluvium, analyses of, from Nebraska, Blue River, Dakota City, Elkhorn  
River, Platte River, and Republican River .....H, Ann 8, p 258  
of Nebraska .....H, Ann 8, pp 256-259  
of New Mexico, north-central .....W, iii, Supp, pp 182-188  
(See, also, Soils.)  
Alpheus, synopsis of North American species of...H, Bull, vol iv, No 1, pp 189-199  
(See, also, Invertebrates.)  
Alpine district, California, notes on.....W, 1878, pp 85-86  
Alpine regions of Rocky Mountains, Coleoptera of...H, Bull, vol iv, No 2, pp 447-480  
Altaite, analysis of, from Colorado, Gold Hill, Red Cloud mine....H, Ann 10, p 136  
Altitude, logarithm and traverse tables.....W, Uncl 11  
Altitudes, determination of, by means of the barometer.....W, Uncl 10,  
pp 29-64; W, Uncl 12, pp 43-88



- Altitudes, determination of, methods of ..... H, Ann 10, pp 299-303  
 in Black Hills ..... BH, pp 551-553  
 in Colorado ..... H, Ann 7,  
 pp 667-669, 678-681; H, Ann 8, pp 429-433,  
 441-442; H, Bull, vol I, ser I, No 2, pp 75-77  
 Sangre de Cristo Range ..... H, Ann 9, pp 299-300  
 in Dakota, Minnesota, and Nebraska ..... H, Ann 6, pp 286-297  
 in Idaho, Wyoming, and Utah ..... H, Ann 6, pp 799-802  
 in Yellowstone Park ..... H, Ann 12, II, pp 457-463  
 list of .. W, 1878, pp 68-78; W, Uncl 16, pp 121-261; H, Bull, vol V, No 3, pp 441-470  
 of datum points on the Great Lakes and in the Rocky Mountains .... H, Ann 7,  
 pp 629-659  
 west of Mississippi River ..... H, Misc 1  
 west of one hundredth meridian ..... W, II, pp 556-566  
 Alum, analysis of, from Utah, Benada Peak, vicinity of ..... K, II, p 424  
 Amargosa mines, California, notes on ..... W, 1871, p 52  
 American aborigines, houses and house life of ..... Eth, IV  
 (See, also, Ethnology and archæology.)  
 Amulets, cranial, and prehistoric trephining ..... Eth, V  
 (See, also, Ethnology and archæology.)  
 Amyzon beds, vertebrata of ..... H, Mon III, pp 742-757  
 Amyzon shales, wading bird from ..... H, Bull, vol VI, No 1, pp 83-85  
 Analyses. (See name of substance.)  
 Ancient art. (See Art, ancient.)  
 Ancient ruins. (See Ruins, ancient.)  
 Andesite, analysis of, from Cziffar ..... K, VI, p 124  
 analysis of, from Germany, Siebengebirge ..... K, VI, p 124  
 from Hungary, Macska and Tokay ..... K, VI, p 124  
 from Italy, Monte Sieva ..... K, VI, p 124  
 from Java, Gunung Patna ..... K, VI, p 124  
 from Nevada, Comstock lode ..... K, III, p 90  
 Gold Hill Peak ..... K, VI, p 123  
 Pappoose Peak region ..... K, II, p 582  
 Washoe Mountains ..... K, I, p 576; K, II, p 477  
 Washoe, Cortez Mountains, and Palisade Canyon ..... K, I, p 576  
 from Utah, Cedar Mountains ..... K, I, p 576; K, II, p 464  
 Grass Valley ..... W, III, p 650  
 of Colorado, occurrence and character of ..... H, Ann 10, pp 213-214  
 of Nevada, Washoe district ..... K, III, pp 30-33  
 Andesite and propylite, characteristics of ..... HP, pp 108-110  
 Animals, organization of, influence of external conditions of life upon ... H, Ann 12,  
 I, pp 473-514  
 Animas region, Colorado, physical features of ..... W, 1876, pp 100-102  
 Antelope district, Nevada, notes on ..... W, 1871, p 39  
 Antelope Hills, Nevada, geology of ..... K, II, pp 483-486  
 Aphididæ of the United States, notes on, with descriptions of species occurring  
 west of the Mississippi River ..... H, Bull, vol V, No 1, pp 1-32  
 (See, also, Invertebrates.)  
 Apishpa Creek, Colorado, geology near ..... H, Ann 3, p 53; H, Ann 1-3, p 153  
 Appalachian Mountains, elevations in ..... H, Misc 1 (4th ed), pp 112-116  
 Aquarius Plateau, Utah, geology of ..... HP, pp 284-298  
 AQUI Mountains, Utah, geology of ..... K, II, pp 456-460  
 Arachnida, description of new ..... H, Ann 6, p 740  
 (See, also, Invertebrates.)

- Araneæ collected in Colorado in 1875, report on . . . H, Bull, vol III, No 2, pp 477-529  
(See, also, Invertebrates.)
- Archean rocks of Basin Ranges . . . . . W, III, pp 186-187
- of Black Hills . . . . . BH, pp 45-65
- of Colorado; Eagle, Grand, and Gunnison rivers . . . . . H, Ann 8, pp 106-109
- Front Range . . . . . K, II, pp 18-21
- Grand River district . . . . . H, Ann 9, pp 64-69
- south-central, and New Mexico, north-central . . . . . W, III, Supp, pp 66-72
- Spanish Peaks region . . . . . W, 1879, p 274
- of Fortieth Parallel region . . . . . K, I, pp 15-98
- correlation of . . . . . K, I, pp 99-111
- orography of . . . . . K, I, pp 729-731
- of Idaho, eastern, and Wyoming, western . . . . . H, Ann 11, pp 474-477
- of New Mexico, north-central, and Colorado, south-central . . . . . W, III, Supp, pp 66-72
- of Utah, Grand River district . . . . . H, Ann 9, pp 64-69
- of Wyoming, Green River region . . . . . H, Ann 11, p 613
- Laramie Hills . . . . . K, II, pp 7-18
- western, and Idaho, eastern . . . . . H, Ann 11, pp 474-477
- Archean topography of Fortieth Parallel area . . . . . K, I, pp 122-126
- Archæology. (See Ethnology and Archeology.)
- Ardeidæ, synopsis of American genera of Ciconiidæ and . . . . . H, Bull,  
vol IV, No 1, pp 219-251
- (See, also, Vertebrates.)
- Arfvedsonite, analysis of, from Colorado, El Paso County . . . . . H, Ann 10, p 138
- Argillite, analysis of, from Nevada, Cottonwood Canyon . . . . . K, II, p 720
- Arid region, lands of . . . . . AL
- Arizona, agricultural capacities of western New Mexico and eastern . . . . . W, III,  
pp 573-597
- batrachians. (See Reptiles and batrachians.)
- birds collected in California, Nevada, Utah, New Mexico, Colorado, and . . . W, V,  
pp 131-507
- list, annotated, of . . . . . W, 1875, pp 153-166
- of portions of New Mexico and . . . . . W, 1875, pp 149-153
- of western and eastern New Mexico . . . . . W, Uncl 4, pp 95-148
- Bombycidæ and Zygenidæ collected in portions of California and . . . . . W, V,  
pp 795-802
- Bradshaw district, notes on . . . . . W, 1871, p 55
- butterflies collected in southern Utah and northern . . . . . H, Bull,  
vol IV, No 1, pp 253-258
- Camp Apache, geology between Gila Valley and . . . . . W, III, pp 218-225
- geology between Little Colorado River and . . . . . W, III, pp 215-218
- Camp Verde, geology between St. George, Utah, and . . . . . W, III, pp 193-208
- climate, timber, irrigation, etc., in portions of New Mexico and . . . . . W, 1875,  
pp 117-129
- Chelly Canyon, ruins and cliff dwelling in . . . . . H, Ann 10, pp 420-425
- Coleoptera collected in portions of California, Nevada, Utah, Colorado, New  
    Mexico, and . . . . . W, V, pp 809-827
- Diptera collected in Colorado and . . . . . W, V, pp 803-807
- elevations in . . . . . H, Bull, vol V, No 3,  
p 454; H, Misc I (3d ed), p 15; H, Misc I (4th ed), pp 54-55
- eruptive rocks of New Mexico and . . . . . W, III, pp 638-651
- explorations in Nevada and . . . . . W, 1871
- fishes collected in portions of California, Nevada, Utah, Colorado, New  
    Mexico, and . . . . . W, V, pp 635-703

- Arizona, geologic map of. See Map, geologic, Arizona  
 geologic section in. See section, geologic, in Arizona  
 geology of portions of Nevada, Utah, New Mexico, and..... W, III, pp 227-301  
 of portions of New Mexico and ..... W, III, pp 503-567  
 Gila Valley, climate of ..... W, III, pp 598-601  
 geology between Camp Apache and ..... W, III, pp 218-225  
 Hemiptera collected in California, Nevada, Utah, New Mexico, Colorado,  
 and portions of..... W, v, pp 829-841  
 collected in Colorado, New Mexico, California, and.. W, 1877, pp 1322-1334  
 Hualapais district, Arizona, notes on ..... W, 1871, pp 53-54; W, 1876, pp 55-56  
 Hymenoptera collected in portions of New Mexico, Colorado, Utah, Ne-  
 vada, and..... W, v, pp 705-736  
 Indians of Nevada and..... W, 1871, pp 27-29, 74-76  
 of Nevada, California, and, ethnographic observations on..... H, Ann 10,  
 pp 461-478  
 invertebrate fossils of portions of Nevada, Utah, Colorado, New Mexico,  
 and ..... W, IV, pp 1-219  
 leeches, fresh-water, collected in portions of Nevada, Utah, Colorado, New  
 Mexico, and..... W, v, pp 955-967  
 Little Colorado River, geology between Camp Apache and.... W, III, pp 215-218  
 geology between Verde River and..... W, III, pp 209-215  
 mammals collected in portions of California, Nevada, Utah, New Mexico,  
 Colorado, and..... W, v, pp 35-129  
 map, geologic, of. (See Map, geologic, Arizona.)  
 map, topographic, of. (See Map, topographic, Arizona.)  
 Martinez district, notes on ..... W, 1871, p 56  
 Maynard district, notes on ..... W, 1871, p 54  
 mining districts of ..... W, 1871, pp 53-59; W, 1876, pp 55-56, 60-61  
 Mollusca, terrestrial and fluviatile, collected in portions of Utah, New  
 Mexico, Colorado, and..... W, v, pp 923-954  
 Neuroptera and pseudo-Neuroptera collected in portions of Colorado, New  
 Mexico, and ..... W, v, pp 909-922  
 Orthoptera collected in portions of California, Nevada, Utah, Colorado,  
 New Mexico, and ..... W, v, pp 843-908  
 Pinal Mountains, mines in, notes on ..... W, 1871, pp 56-59  
 plants of..... W, III, pp 603-609  
 of Nevada, Utah, Colorado, New Mexico, and, catalogue of, with  
 descriptions of new species..... W, VI, pp 53-297  
 of Utah, Nevada, and..... W, Uncl 5, pp 5-19  
 plateau region of New Mexico and, geology of..... W, III, pp 542-567  
 pottery, implements, etc., obtained in New Mexico and .... W, VII, pp 374-390  
 range region in New Mexico and, geology of ..... W, III, pp 507-524  
 reptiles and batrachians collected in California, Nevada, and..... W, 1878,  
 pp 206-226  
 collected in portions of California, Nevada, Utah, Colorado, New  
 Mexico, and ..... W, v, pp 509-584  
 synopsis of..... W, v, pp 585-633  
 ruins, ancient, near San Juan River..... H, Bull, vol II, No 1, pp 25-45  
 section, geologic, in. (See Section, geologic, in Arizona.)  
 Tiger district, notes on ..... W, 1871, pp 54-55  
 topographic map of. (See Map, topographic, Arizona.)  
 tribes, ancient, of, bead ornaments used by..... H, Bull, vol II, No 1, pp 67-69  
 Verde River, geology between Little Colorado River and.... W, III, pp 209-215  
 volcanic region in New Mexico and, geology of..... W, III, pp 525-541

- Arizona, Vulture mine, notes on.....W, 1871, p 56  
 Weaver district, notes on.....W, 1871, p 55  
 Zygaenidae and Bombycidae collected in portions of California and .....W, v,  
 pp 795-802  
 (See, also, Basin ranges.)
- Arkansas, elevations in.....H, Misc 1 (3d ed), p 5; H, Misc 1 (4th ed), pp 55-56  
 locusts in.....H, Uncl 14, p 64
- Arkansas River, Colorado, agriculture near.....H, Ann 4, pp 213-217  
 cultivable areas in basin of.....H, Ann 10, pp 326-328  
 geology near.....H, Ann 3, pp 48-49; H, Ann 1-3, pp 148-149
- Arkansas Valley, Colorado, geology of.....H, Ann 7, pp 239-242; W, 1875, pp 97-98  
 glaciation in upper.....H, Ann 8, pp 47-53
- Art, ancient, in Colorado, northwestern.....H, Bull, vol II, No 1, pp 65-66  
 in Wyoming, Bridger Basin.....H, Ann 6, pp 651-653  
 (See, also, Ethnology and archaeology.)
- Artemia fertilis Verrill from Great Salt Lake, Utah, notes on..H, Ann 12, I, pp 459-463  
 (See, also, Invertebrates.)
- Artemia muehlhauseni, relation of Artemia salina and, to genus Branchipus  
 Schaefer.....H, Ann 12, I, pp 466-473  
 (See, also, Invertebrates.)
- Artemia salina, parthenogenesis in.....H, Ann 12, I, pp 463-466  
 relation to Artemia muehlhauseni and to genus Branchipus Schaefer..H, Ann 12,  
 I, pp 466-473  
 (See, also, Invertebrates.)
- Artesian borings in Wyoming, along line of Union Pacific Railroad.....H, Bull,  
 vol III, No 1, pp 181-185
- Artesian wells of Great Basin.....W, III, pp 115-117  
 of Western States and Territories.....W, I, pp 206-210
- Ashley Creek Basin, Utah, geology of.....K, II, pp 291-298
- Asia and Asia Minor, springs, thermal, of.....H, Ann 12, II, pp 339-344
- Aspen Mountain district, Colorado, structure of.....UM, pp 209-210
- Aspen Ridge, Idaho, geology of.....H, Ann 11, pp 558-559
- Asphaltum in California, San Fernando Range.....W, 1876, pp 164-166
- Astronomical observations at Colorado Springs, Colorado, and Cheyenne,  
 Wyoming.....W, Uncl 3  
 in Colorado, Utah, Wyoming, Nevada, Montana, and New Mexico.....W, 1874,  
 pp 13-102  
 in Nevada, Utah, Montana, Wyoming, Nebraska, Colorado, and New  
 Mexico.....W, II, pp 1-491
- Astrophyllite, analysis of, from Colorado.....H, Ann 10, p 138
- Atlas sheets, description of.....W, 1876, pp 42-46  
 list of. (See pages 60-62 of this bulletin.)
- Aubrey group, exposures of.....UM, pp 54-55  
 of Uinta Mountains.....UM, pp 148-150
- Aubrey limestone of Basin Ranges.....W, III, pp 177-178
- Aughey (S.), catalogue of land and fresh-water shells of Nebraska.....H, Bull,  
 vol III, No 3, pp 697-704  
 notes on the nature of the food of the birds of Nebraska.....H, Uncl 14,  
 App, pp 13-62  
 superficial deposits of Nebraska.....H, Ann 8, pp 243-269
- Augite-andesite, analysis of, from Nevada, Palisade Canyon.....K, II, p 587  
 of Nevada, microscopical petrography of.....K, VI, pp 221-228  
 of Nevada Plateau.....K, I, pp 571-577
- Augite-trachyte, analysis of, from Nevada, Sheep Corral Canyon.....K, II, p 838

- Augite-trachyte, analysis of, from Nevada, Truckee Ferry ..... K, II, p 833  
 analysis of, from Norway ..... K, VI, p 146
- Augusta Mountains, Nevada, geology of ..... K, II, pp 649-659  
 granite of ..... K, I, pp 79-80
- Austin (C. F.), list of Hepaticæ collected in the Southwest ..... W, VI, p 350  
 plants determined by ..... W, Uncl 5, p 62
- Austin (E. P.), report of ..... W, 1871, pp 91-92
- Austria, primitive lapidarian sculptures in ..... Eth, v, pp 22-25
- Awapa Plateau, Utah, geology of ..... HP, pp 272-276
- Aztec district, New Mexico, notes on ..... W, 1876, pp 66-67
- Bannock Range, Idaho, geology of ..... H, Ann 11, pp 570-572
- Banner district, California, notes on ..... W, 1876, pp 57-58
- Bannister (H. M.), report of a geological reconnaissance along the Union  
 Pacific Railroad ..... H, Ann 6, pp 519-541
- Barber (E. A.), ancient art in northwestern Colorado ..... H, Bull,  
 vol III, No 1, pp 65-66  
 bead ornaments employed by ancient tribes of Utah and Arizona ..... H, Bull,  
 vol II, No 1, pp 67-69  
 comparative vocabulary of Utah dialects ..... H, Bull, vol III, No 3, pp 533-545  
 language and utensils of the modern Utes ..... H, Bull, vol II, No 1, pp 71-76
- Barometer, use of, in determining altitudes ..... W, Uncl 10, pp 29-64;  
 W, Uncl 12, pp 43-88
- Barometric hypsometry, results of, 1871-1875 ..... W, II, pp 493-566
- Basalt, analysis of, from Arizona, Canyon Butte ..... W, III, pp 647, 651  
 analysis of, from Arizona, Peloncillo Mountains ..... W, III, pp 647, 651  
 from California, El Paso Mountain ..... W, III, pp 650, 651  
 from Colorado, Buffalo Peak ..... K, I, p 676  
 from Nevada, Diabase Hills ..... K, II, p 812  
 Ombe Range ..... K, I, p 676; K, II, p 500  
 Wadsworth ..... K, I, p 676  
 from New Mexico, Abiquiu ..... W, 1875, p 101
- characteristics of ..... HP, pp 110-112
- of Arizona and New Mexico ..... W, III, pp 639-640
- of Basin Ranges ..... W, III, pp 253-255
- of Colorado, Eagle, Grand, and Gunnison rivers, adjacent to ..... H, Ann 8,  
 pp 171-174  
 occurrence and character of ..... H, Ann 10, pp 246-251
- Sawatch Range ..... H, Ann 9, pp 162-163
- of Fortieth Parallel region ..... K, I, pp 653-676  
 microscopical petrography of ..... K, VI, pp 229-258
- of New Mexico, north-central ..... W, III, Supp, pp 167-172
- thin section of, from Colorado, North Park, vicinity of ..... K, VI, pl XI  
 from Nevada, Augusta Mountains ..... K, VI, pl XI  
 Truckee Valley ..... K, VI, pl X  
 Washoe ..... K, VI, pl X
- Basaltic rock, thin section of, from Nevada, River Range ..... K, VI, pl XI
- Basin Ranges, glaciation in ..... W, III, pp 86-104  
 minerals of ..... W, III, pp 257-264  
 mountain systems of ..... W, III, pp 231-248  
 mountains of ..... W, III, pp 21-42  
 valleys of ..... W, III, pp 249-252  
 valleys and canyons of ..... W, III, pp 63-85
- Basket work, textile fabrics, etc., of Indians of southern California ..... W, VII,  
 pp 239-250

(See, also, Ethnology and archæology.)

- Bassarids, species of, descriptions of ..... H, Bull, vol v, No 3, pp 331-340  
(See, also, Vertebrates.)
- Batrachians and reptiles collected in California, Arizona, and Nevada..... W, 1878,  
pp 206-226  
collected in portions of Nevada, Utah, California, Colorado, New Mexico,  
and Arizona ..... W, v, pp 509-584  
of Arizona, synopsis of..... W, v, pp 585-633  
of Permian beds of Texas, some new..... H, Bull, vol vi, No 1, pp 79-82  
(See, also, Vertebrates; Vertebrates, fossil.)
- Battle Mountain district, Nevada, mining in ..... K, iii, pp 317-319; W, 1871, p 40
- Battle Mountains, Nevada, geology of ..... K, ii, pp 666-672
- Bead ornaments employed by ancient tribes of Utah and Arizona.... H, Bull, vol ii,  
No 1, pp 67-69  
(See, also, Ornaments; Ethnology and archaeology.)
- Beads of Indians of southern California..... W, vii, pp 263-271  
(See, also, Ornaments; Ethnology and archaeology.)
- Beaman (J. W.), meteorological observations in Wyoming ..... H, Ann 4, pp 488-501  
meteorological report on Yellowstone region ..... H, Ann 5, pp 501-524
- Bear Lake Plateau and Valley, Idaho-Utah, geology of ..... H, Ann 11, pp 582-589
- Bear Lodge region, South Dakota, geology of..... BH, pp 283-289
- Bear River, geology from Salt Lake Valley to..... H, Ann 4, pp 147-161  
topography of basin of ..... H, Ann 11, pp 697-702
- Bear River group, character and fauna of..... H, Mon ii, pp 36-41  
extent and age of..... H, Ann 7, pp 439-442; H, Ann 8, p 144  
of Wyoming..... H, Bull, vol i, ser i, No 2, pp 13-16
- Bear River Range, Idaho-Utah, geology of..... H, Ann 11, pp 598-600
- Bear River region, geology of..... H, Ann 4, pp 44-54;  
H, Ann 5, pp 150-156; K, ii, pp 326-339; H, Ann 11, pp 573-603
- Bear Valley mining district, California, notes on..... W, 1879, p 191
- Beaver, Utah, astronomical determinations at..... W, ii, pp 57-71
- Beaver Creek, Wyoming, geology near..... H, Ann 11, p 553
- Bechler (G. R.), geographical report on Middle and South Parks, Colorado,  
and adjacent region..... H, Ann 9, pp 369-440  
topographical report on Yampa River district ..... H, Ann 10, pp 359-378
- Bees allied to Melissodes and Anthophora, generic arrangement of..... H, Bull,  
vol v, No 3, pp 471-479  
(See, also, Invertebrates.)
- Beetles collected in Colorado, list of..... H, Ann 9, pp 811-815  
(See, also, Invertebrates.)
- Belchoola language, vocabulary of..... Eth, i, pp 267-283  
(See, also, Ethnology and archaeology.)
- Belmont, Nevada, mining at..... K, iii, pp 394-404
- Bembicidae, description of tribe Stizini ..... H, Bull, vol v, No 3, pp 341-347  
(See, also, Invertebrates.)
- Benton group. (See Fort Benton group.)
- Bergland (E.), report on proposed diversion of Colorado River.. W, 1876, pp 109-125  
surveys by, report on ..... W, 1877, pp 1250-1252; W, 1878, pp 103-106
- Bessels (E.), the human remains found among the ancient ruins of south-  
western Colorado and northern New Mexico ..... H, Bull,  
vol ii, No 1, pp 47-63
- Bibliography of birds of Nevada..... H, Bull, vol vi, No 2, pp 252-256  
of Cete and Sirenia ..... H, Bull, vol vi, No 3, pp 399-562  
of Crustaceans, phyllopod ..... H, Ann 12, i, pp 453-457  
of invertebrate paleontology, North American ..... H, Bull,  
vol v, No 1, pp 143-152; H, Misc 10

- Bibliography of Klamath Indians ..... Eth, II, pt 1, pp xii-xv  
of locusts of America ..... H, Uncl 14, App, pp 273-279  
of mammals, North American ..... H, Mon XI, pp 951-1081  
of minerals of Colorado ..... H, Ann 10, pp 158-159  
of Muridæ ..... H, Mon XI, pp 255-264  
of ornithology, American ..... H, Bull,  
vol v, No 2, pp 239-330; II, Bull, vol v,  
No 3, pp 521-1066; H, Miscel 11, pp 567-784  
of Phalenidæ of the United States ..... H, Mon x, pp 595-598  
of Rhizopods, fresh-water ..... H, Mon XII, pp 297-319  
of springs, thermal, and geysers ..... H, Ann 12, II, pp 427-449  
Bighorn Range, Wyoming, geology of ..... LOR, 1868, pp 224-225; H, Ann 2, pp 70-71  
Big Thompson Creek, Colorado, geology near ..... H, Ann 3,  
pp 24-26; H, Ann 1-3, pp 124-126; H, Ann 7, pp 20-27  
Bindheimite, analysis of, from Nevada, Montezuma Range ..... K, II, p 759  
Binney (W. G.), list of terrestrial mollusks collected by Lieut. W. L. Carpen-  
ter, U. S. Army, for the United States Geological Survey of  
Colorado, 1873 ..... H, Ann 7, p 523  
Biotite, thin section of, from propylite of Nevada, Cortez Range ..... K, VI, pl 5  
Bird, fossil, from Amyzon shales ..... H, Bull, vol VI, No 1, pp 83-85  
from insect-bearing shales of Colorado, description of ..... H, Bull,  
vol IV, No 2, pp 443-445  
Birds of Arizona, annotated list of ..... W, 1875, pp 153-166  
of Arizona, eastern, and New Mexico. western ..... W, Uncl 4, pp 95-148  
portions of New Mexico and ..... W, 1875, pp 149-153  
of Arizona and adjacent States ..... W, v, pp 131-507  
of California, portion of ..... W, 1876, pp 224-278  
portions of Nevada and, preliminary report on ..... W, 1878, pp 185-186  
of California and adjacent States ..... W, v, pp 131-507  
of California, Oregon, and Nevada ..... W, 1879, pp 282-335  
of Colorado, Denver, vicinity of ..... W, Uncl 4, pp 56-69  
Fort Garland, vicinity of ..... W, Uncl 4, pp 69-95  
of Colorado and adjacent States ..... W, v, pp 131-507  
of Colorado Valley, a repository of scientific and popular information con-  
cerning North American ornithology ..... H, Miscel 11  
of Dakota, Fort Sisseton, notes on ..... H, Bull, vol v, No 1, pp 71-103  
of Dakota and Montana, along forty-ninth parallel, field notes on ..... H, Bull,  
vol IV, No 3, pp 545-661  
of Great Basin ..... K, IV, pp 303-643  
of Guadeloupe Island ..... H, Bull, vol II, No 2, pp 183-195  
of Idaho, Wyoming, and Utah ..... H, Ann 6, pp 670-715  
of Michigan, annotated list of ..... H, Bull, vol v, No 3, pp 481-497  
of Montana and Dakota, along forty-ninth parallel, field notes on ..... H, Bull,  
vol IV, No 3, pp 545-661  
of Nebraska, food of, notes on ..... H, Uncl 14, App, pp 13-62  
of Nevada, annotated list of ..... H, Bull, vol VI, No 2, pp 203-256  
bibliography of ..... H, Bull, vol VI, No 2, pp 252-256  
Carson City, vicinity of ..... W, 1877, pp 1307-1322  
portions of California and, preliminary report on ..... W, 1878, pp 185-186  
of Nevada and adjacent States ..... W, v, pp 131-507  
of Nevada and Utah ..... W, Uncl 4, pp 5-33  
of New Mexico, and portions of Arizona ..... W, 1875, pp 149-153  
western, and Arizona, eastern ..... W, Uncl 4, pp 95-148  
of New Mexico and adjacent States ..... W, v, pp 131-507  
of Northwest ..... H, Miscel 3

- Birds of Texas, Red River region ..... H, Bull, vol III, No 3, pp 655-695  
 of Texas, Rio Grande, lower ..... H, Bull, vol IV,  
 No 1, pp 1-66; H, Bull, vol V, No 3, pp 371-440  
 of United States, western, geographical distribution and variation in ..... W, V,  
 pp 23-34  
 of Utah, annotated list of ..... W, Uncl 4, pp 39-54; W, Uncl 7  
 of Utah and adjacent States ..... W, V, pp 131-507  
 of Utah and Nevada ..... W, Uncl 4, pp 5-33  
 of Utah, Wyoming, and Idaho ..... H, Ann 6, pp 670-715  
 of Wyoming, list of ..... H, Ann 4, pp 462-466  
 of Wyoming, Idaho, and Utah ..... H, Ann 6, pp 670-715  
 worms, parasitic, found in the brain and other parts of ..... H, Ann 6,  
 pp 735-737  
 (See, also, Ornithology; Vertebrates.)
- Birnie (R. jr.), report on ruins visited in New Mexico ..... W, VII,  
 pp 346-350; W, 1875, pp 178-180  
 work in charge of, reports on ..... W, 1875, pp 41-43;  
 W, 1876, pp 130-135; W, 1877, pp 1262-1272;  
 W, 1878, pp 122-131; W, 1879, pp 237-253
- Bishop Mountain conglomerate, exposures of ..... UM, p 44  
 of Uinta Mountains ..... UM, pp 169-171
- Bison, American, history, habits, range, etc., of ..... H, Ann 9, pp 443-588  
 (See, also, Vertebrates.)
- Bitter Creek, Wyoming, Cretaceous uplift of ..... K, II, pp 227-238
- Bitter Creek series, character and fauna of ..... H, Mon II, pp 30-36  
 exposures of ..... UM, pp 45-47  
 extent and age of ..... H, Ann 7, pp 435-439; H, Ann 8, pp 145-146  
 of Uinta Mountains ..... UM, pp 162-166  
 of Western Territories ..... H, Bull, vol I, ser. I, No 2, pp 8-13  
 of Wyoming ..... H, Ann 6, pp 455-462
- Black Butte quartzite of Uinta Mountains ..... UM, pp 160-161
- Black Hills, botany of ..... BH, pp 529-537  
 geography and geology of ..... LOR, 1868, pp 222-223; H, Ann 2, pp 68-69  
 geology and resources of, report on ..... BH  
 mineral resources of ..... BH, pp 223-324  
 paleontology of ..... BH, pp 325-468; PBH
- Black Rock Mountains, Nevada, geology of ..... K, II, pp 790-797
- Blackfoot Basin, Idaho, geology of ..... H, Ann 11, pp 556-563  
 topography of ..... H, Ann 11, pp 695
- Blackfoot Range, Idaho, geology near ..... H, Ann 11, pp 338-349
- Blackmorite, analysis of, from Montana, Mount Blackmore ..... H, Ann 6, p 169
- Blind Spring district, California, notes on ..... W, 1871, p 46; W, 1876, pp 47-48
- Blue River Valley, Colorado, geology of ..... H, Ann 7, pp 184-187  
 topographic features of ..... H, Ann 9, pp 399-407
- Bluff formation of Nebraska ..... LOR, 1867, pp 139-140; H, Ann 1, pp 18-19
- Blunt (S. E.), report of ..... W, 1875, pp 43-44
- Bodie district, California, notes on ..... W, 1878, pp 80-81
- Bombycidae and Zygænidæ collected in portions of California and Arizona ... W, V,  
 pp 795-802  
 (See, also, Invertebrates.)
- Bone, implements and weapons made of wood and ..... W, VII, pp 222-233  
 (See, also, Ethnology and archæology.)
- Bones, musical instruments made of, from southern California ... W, VII, pp 234-238  
 (See, also, Ethnology and archæology.)



- Bonneville, Lake, discussion of ..... K, I, pp 490-504  
 extent of ..... W, III, pp 88-93  
 Bonneville beds of Great Basin ..... W, III, pp 94-97  
 Book Cliffs. (See Roan Cliffs.)  
 Botanical notes on Colorado ..... W, VI, pp 1-14  
 on New Mexico ..... W, VI, pp 15-37  
 Botany, notes on economic ..... W, VI, pp 39-52  
 (See, also, Plants.)  
 Boulder, Colorado, coal at ..... H, Ann 3, p 109; H, Ann 1-3, p 107  
 Boulder Creek, Colorado, geology near ..... H, Ann 3, pp 29-33; H, Ann 1-3, pp 129-133  
 Box Elder Creek, Colorado, geology near ..... H, Ann 3, p 19; H, Ann 1-3, p 119  
 Box Elder region, Utah, geology of ..... K, II, pp 403-406  
 Bozeman, Montana, astronomical determinations at ..... W, II, pp 371-384  
 meteorological observations at ..... H, Misc 2, pp 47-59  
 Bradley (F. H.), report of ..... H, Ann 6, pp 189-271  
 Bradshaw district, Arizona, notes on ..... W, 1871, p 55  
 Branchiopodidæ, reproductive habits of, notes on ..... H, Ann 12, I, pp 420-452  
 Brandegee (T. S.), the flora of southwestern Colorado ..... H, Bull,  
 vol II, No 3, pp 227-248  
 Bridger Basin, Wyoming, art, primitive, in ..... H, Ann 6, pp 651-653  
 geology of ..... K, II, pp 238-241  
 Bridger group, invertebrates of, list of ..... H, Bull, vol III, No 3, p 611  
 occurrences and character of ..... H, Ann 8,  
 pp 149, 156-158; H, Mon III, pp 11-12; UM, p 45  
 of Colorado, northwestern ..... H, Ann 10, p 37  
 of Fortieth Parallel region ..... K, I, pp 394-405  
 of Puerco and Wasatch groups, vertebrata of ..... H, Mon III, pp 49-742  
 of Uinta Mountains ..... UM, pp 167-168  
 of Wyoming ..... H, Ann 11, p 132  
 Bridger Basin ..... K, II, pp 244-250  
 Green River region ..... H, Ann 11, pp 639-640  
 vertebrata of ..... H, Mon I, pp 15-194  
 Bridger Pass region, Wyoming, geology of ..... K, II, pp 156-160  
 Brinton (D. G.), the graphic system and ancient records of the Mayas ..... Eth, v,  
 pp xvii-xxxvii  
 British America, locusts in ..... H, Uncl 14, pp 108-112, App, pp 145-149  
 Browns Park, Colorado, structure of ..... UM, pp 208-209  
 Browns Park and Yampa Valley, Colorado, geology of ..... K, II, pp 222-225  
 Browns Park group, exposures of ..... UM, p 44  
 of Uinta Mountains ..... UM, pp 168-169  
 Buffalo. (See Bison.)  
 Buffalo Fork, Wyoming, geology near ..... H, Ann 11,  
 pp 461-467; H, Ann 12, I, pp 225-227  
 Buffalo Fork Mountains, Wyoming, geology of ..... H, Ann 11, pp 468-479  
 Bull Lake Fork, Wyoming, geology near ..... H, Ann 12, I, pp 245-248  
 Bull Run district, Nevada, notes on ..... W, 1871, p 34  
 Butterflies collected in Colorado in 1873 ..... H, Ann 7, p 542  
 collected in Colorado and Utah in 1875, notice of ..... H, Bull, vol II,  
 No 3, pp 269-270  
 in Montana and Wyoming, list of species of ..... H, Ann 5, pp 466-467  
 in southern Utah and northern Arizona in 1877 ..... H, Bull, vol IV, No 1,  
 pp 253-258  
 Cabrillo, voyage of, account of ..... W, VII, pp 293-314

- Cache la Poudre Creek, Colorado, geology near.....H, Ann 3,  
pp 21-23; H, Ann 1-3, pp 121-123  
mines on .....H, Ann 3, p 108; H, Ann 1-3, p 106
- Cache Valley, Utah, geology of .....H, Ann 5, pp 19-21  
geology of .....H, Ann 11, pp 603-606
- Cachina, a dance at the pueblo of Zufii, description of.....W, VII, pp 332-336
- Calaverite, analysis of, from Colorado.....H, Ann 10, p 139
- Calceiferous group of Colorado, Eagle and Grand rivers.....H, Ann 8, pp 111-113  
of Wyoming, Sweetwater Valley .....H, Ann 11, p 102  
Wind River Range.....H, Ann 11, pp 71-73
- Calendar of the Dakota nation .....H, Bull, vol III, No 1, pp 3-25
- California, aboriginal inhabitants of southern.....W, VII, pp 1-31  
agricultural and physical features of southern, especially of the Mohave  
Desert.....W, 1876, pp 214-222
- alpine district, notes on .....W, 1878, pp 85-86
- Amargosa mines, notes on.....W, 1871, p 52
- asphaltum in San Fernando Range .....W, 1876, pp 164-166
- astronomical work in Oregon, Washington, and .....W, 1879, pp 265-268
- Banner district, notes on.....W, 1876, pp 57-58
- batrachians of. (See Reptiles and batrachians.)
- Bear Valley mining district, notes on.....W, 1879, p 191
- birds collected in Nevada, Utah, Colorado, New Mexico, Arizona, and .. W, v,  
pp 131-507  
of portion of.....W, 1876, pp 224-278  
of Nevada and, preliminary report on.....W, 1878, pp 185-186  
of Nevada, Oregon, and.....W, 1879, pp 282-335
- Blind Spring district, notes on.....W, 1871, p 46; W, 1876, pp 47-48
- Bodie district, notes on.....W, 1878, pp 80-81
- Bombycidae and Zygaenidae collected in portions of Arizona and .. W, v, pp 795-802
- botany and agriculture of portions of southern.....W, 1876, pp 202-213
- Castle Peak district, notes on.....W, 1878, pp 84-85
- Cerro Gordo district, notes on.....W, 1876, pp 62-63
- Charlotte district, notes on .....W, 1876, p 51
- Clarke district, notes on.....W, 1871, p 53; W, 1876, pp 53-54
- Coleoptera collected in portions of Nevada, Utah, Arizona, New Mexico,  
Colorado, and.....W, v, pp 809-827  
of New Mexico, Colorado, and.....W, 1876, pp 296-300
- Confidence district, notes on .....W, 1878, pp 86-87
- Deep Spring Valley district, notes on .....W, 1871, pp 49-50
- discovery of and origin of name, notes on .....W, 1878, pp 226-229
- El Paso district, notes on.....W, 1871, p 52
- elevations in.....H, Bull, vol v, No 3, pp 454-456; H, Misc 1 (3d ed), pp 17-18;  
H, Misc 1 (4th ed), pp 56-62
- ethnological researches in southern.....W, VII, pp 1-314
- ethnology of southern, notes on .....W, 1876, pp 321-327
- fishes collected in Nevada and, report on.....W, 1878, pp 187-205  
collected in portions of Nevada, Utah, Arizona, New Mexico, Colo-  
rado, and.....W, v, pp 635-703
- Fresno, astronomical work at.....W, 1879, pp 41-47
- geologic map. (See Map, geologic, California.)
- geologic section. (See Section, geologic, California.)
- geological and mineralogical character of southeastern .....W, 1876, pp 173-188
- geology of southern portion of.....W, 1876, pp 158-172  
of western Nevada and eastern, portions of.....W, 1878, pp 167-183  
between parallels 39° 30' and 38° 30'.....W, 1877, pp 1285-1295

- California, geysers of ..... H, Ann 12, II, pp 321-323
- Granite Mountain district, notes on ..... W, 1871, p 51
- Green Mountain district, notes on ..... W, 1876, pp 52-53
- Hemiptera collected in Colorado, New Mexico, Arizona, and ..... W, 1877,  
pp 1322-1334
- collected in portions of Nevada, Utah, Arizona, New Mexico, Colo-  
rado, and ..... W, v, pp 829-841
- Hetch Hetchy Valley, description of ..... W, 1879, pp 259-260
- Holcomb Valley mining district, notes on ..... W, 1879, p 190
- Indian tribes of ..... Eth, III
- Indians of Nevada, Arizona and, ethnographic observations on ..... H, Ann 10,  
pp 461-478
- irrigation in Santa Clara Valley ..... H, Ann 5, pp 269-271
- Julian district, notes on ..... W, 1876, pp 59-60
- Kearsarge district, notes on ..... W, 1871, p 50
- kjökkenmöddings and graves of a former population of Santa Barbara  
islands ..... H, Bull, vol III, No 1, pp 37-56
- lakes, alkaline, thermal springs, mineral springs, and brackish waters of  
southern ..... W, 1876, pp 188-199
- Lassen Peak region, topography, geology, etc., of ..... W, 1879, pp 209-214
- lithology and mineralogy of portions of Nevada and ..... W, 1878, pp 184-185
- Lone Pine district, notes on ..... W, 1871, p 50
- Lone Valley mining district, notes on ..... W, 1879, p 192
- Lookout district, notes on ..... W, 1876, pp 67-68
- Los Angeles, geology of vicinity of ..... W, 1876, pp 158-159
- mammals collected in portions of Nevada, Utah, Arizona, New Mexico,  
Colorado and ..... W, v, pp 35-129; W, 1876, pp 305-312
- map, geologic. (See Map, geologic, California.)
- map, topographic. (See Map, topographic, California.)
- Meadow Lake district, notes on ..... W, 1878, pp 81-82
- mining districts of ..... W, 1871, pp 48-52;  
W, 1876, pp 47-54, 56-60, 62-70; W, 1878, pp 80-88
- Mohave Desert, meteorological conditions of ..... W, 1876, pp 152-157
- physical and agricultural features of ..... W, 1876, pp 216-219
- vegetation of, geographical distribution of ..... W, 1876, pp 222-224
- Monitor district, notes on ..... W, 1878, pp 87-88
- New Almaden mercury mines, notes on ..... W, 1876, p 64
- New Coso district, notes on ..... W, 1876, pp 56-57
- New Eldorado district, notes on ..... W, 1876, pp 58-59
- Noctuidæ of ..... H, Bull, vol IV, No 1, pp 169-187
- Oneata district, notes on ..... W, 1871, p 48
- ornithology of portions of ..... W, 1876, pp 224-278
- of portions of Nevada and, preliminary report on ..... W, 1878, pp 185-186
- Orthoptera collected in Colorado, New Mexico, and ..... W, 1876, pp 278-295
- collected in portions of Nevada, Utah, Arizona, New Mexico, Arizona  
and ..... W, v, pp 843-908
- Owens Lake, description of ..... W, 1876, pp 189-190
- Panamint district, notes on ..... W, 1876, pp 49-51
- Placerville district, notes on ..... W, 1878, pp 82-84
- Quaternary lakes of southeastern ..... W, 1876, pp 177-179
- reptiles and batrachians collected in Arizona, Nevada, and ..... W, 1878, pp 206-226
- collected in portions of Nevada, Utah, Arizona, New Mexico, Colo-  
rado, and ..... W, v, pp 509-584
- Ridge Bar mining camp, notes on ..... W, 1879, p 188
- Rose Spring district, notes on ..... W, 1876, pp 65-66

- California, San Antonio mining district, notes on ..... W, 1879, p 190  
 San Emidio district, notes on ..... W, 1876, pp 51-52  
 San Fernando, geology of vicinity of ..... W, 1876, pp 160-166  
 San Gabriel mining district, notes on ..... W, 1879, p 189  
 Santa Barbara, ethnological researches near ..... W, vii, pp 32-47; W, 1876,  
 pp 312-321  
 Santa Barbara Islands, crania from, observations on ..... W, vii, pp 277-292  
 kjökkenmöddings and graves of a former population of .... H, Bull, vol iii,  
 No 1, pp 37-56  
 Santa Clara Valley, irrigation in ..... H, Ann 5, pp 269-271  
 Santa Cruz Island, physical features of ..... W, 1876, pp 215-216  
 Santa Monica Range, geology of ..... W, 1876, pp 159-160  
 section, geologic. (See Section, geologic, California.)  
 Silver Era Peak, geology of ..... W, 1878, pp 181-183  
 Silver Mountain district, notes on ..... W, 1878, pp 88-89  
 Sninner district, notes on ..... W, 1876, p 65  
 Tahoe, Lake, general features of ..... W, 1877, pp 1287-1288  
 Temescal tin mines, notes on ..... W, 1876, pp 68-70  
 topographic map. (See map, topographic, California.)  
 Ubehebe district, notes on ..... W, 1876, pp 64-65  
 Washington district, notes on ..... W, 1878, p 84  
 West Walker River district, notes on ..... W, 1878, p 86  
 Zygaenidæ and Bombycidæ collected in portions of Arizona and ..... W, v,  
 pp 795-802  
 (See, also, Basin Ranges.)  
 Calvin (S.), on some dark shale recently discovered below the Devonian lime-  
 stones at Independence, Iowa; with a notice of its fossils and  
 description of new species ..... H, Bull, vol iv, No 3, pp 725-730  
 Cambarus couesi, description of ..... H, Bull, vol iii, No 4, pp 803-804  
 (See, also, Invertebrates.)  
 Cambrian fossils of Utah and Nevada, list of ..... K, i, p 231  
 (See, also, Invertebrates, fossils; Vertebrates, fossil.)  
 Cambrian rocks of Colorado, Eagle and Grand rivers ..... H, Ann 8, pp 111-113  
 of Wyoming, Green River region ..... H, Ann 11, p 614  
 Cambrian and Silurian rock of Great Basin ..... K, i, pp 184-221  
 Camp Apache, Arizona, geology between Gila Valley and ..... W, iii, pp 218-225  
 geology between Little Colorado River and ..... W, iii, pp 215-218  
 Campe Verde, Arizona, geology between St. George, Utah, and ..... W, iii, pp 193-208  
 Campbells Fork, Wyoming, geology near ..... H, Ann 12, i, pp 240-245  
 Camps, location of, distances between, etc. .... W, Uncl 1; W, Uncl 2  
 Canadian group, invertebrate fossils of, from Utah and Nevada. W, iv, pp 50-61; W,  
 Uncl 6, pp 8-12  
 of Colorado, Eagle and Grand rivers ..... H, Ann 8, pp 111-113  
 Canadian River region, New Mexico, agricultural resources of ..... W, iii,  
 Supp, pp 374-379  
 geology of ..... W, iii, Supp, pp 225-282  
 Canadian Valley, New Mexico, geology of, notes on ..... H, Bull, vol ii,  
 No 4, pp 279-285  
 Canidæ of the Loup Fork epoch ..... H, Bull, vol vi, No 2, pp 387-390  
 (See, also, Vertebrates.)  
 Canidæ and Nimravidæ of the Miocene period, descriptions of ..... H, Bull, vol vi,  
 No 1, pp 165-181  
 (See, also, Vertebrates.)

- Canyon, Colorado, geology near ..... H, Bull, vol i, ser 2, No 5, pp 249-251  
 meteorological observations at ..... H, Miscel 6, pp 40-56  
 Caribidæ, description of two species of, from Toronto, Canada..... H, Bull,  
 vol iii, No 4, pp 763-764  
 (See, also, Invertebrates.)  
 Carbon Basin, Wyoming, geology of..... K, ii, pp 143-148  
 Carboniferous fossils, invertebrates of Arizona and adjacent States..... H, Bull,  
 vol v, No 2, pp 209-220; W, iv, pp 79-161; W, Uncl 6, pp 15-23  
 invertebrates of Colorado, Arizona, Utah, Idaho, and Wyoming, remarks  
 on certain ..... H, Bull, vol v, No 2, pp 209-220  
 of Fortieth Parallel region..... K, iv, pp 50-99, 251-280  
 of Idaho, Wyoming, Utah, Colorado, Arizona, and adjacent States.. H, Bull,  
 vol v, No 2, pp 209-220  
 of Interior States..... H, Ann 12, i, pp 155-171  
 of Nevada and adjacent States..... W, iv, pp 79-161; W, Uncl 6, pp 15-23  
 of New Mexico ..... W, iii, Supp, pp iii-xxxvi  
 of New Mexico and adjacent States.. W, iv, pp 79-161; W, Uncl 6, pp 15-23  
 of Plateau province..... UM, pp 88-92, 107-109  
 of Southwest..... W, iv, pp 79-161  
 of Utah and adjacent States ..... H, Bull,  
 vol v, No 2, pp 209-220; W, iv, pp 79-161  
 of Utah and Wyoming, list of, collected in 1871..... H, Ann 5, pp 373-374  
 of Western States and Territories..... H, Ann 12, i, pp 119-141  
 of Wyoming, Idaho, Utah, and Arizona.... H, Bull, vol v, No 2, pp 209-220  
 of Wyoming and Utah, list of ..... H, Ann 5, pp 373-374  
 (See, also, Invertebrates, fossil.)  
 of Idaho, eastern, and Wyoming, western, list of ..... H, Ann 11, pp 619-620  
 of Idaho, Montana, and Utah..... H, Ann 6, pp 432-434, 465-471  
 of Utah and Wyoming, list of..... H, Ann 5, pp 373-374  
 of Wyoming, western, and Idaho, eastern, list of..... H, Ann 11, pp 619-620  
 vertebrates, Batrachia and Reptilia of Permian beds of Texas, some  
 new ..... H, Bull, vol vi, No 1, pp 79-82  
 fishes of Kansas, notice of some..... H, Mon i, pp 311-314  
 (See Invertebrates, fossil; Vertebrates, fossil; Plants, fossil.)  
 Carboniferous rocks of Basin Ranges..... W, iii, pp 176-180  
 of Black Hills..... BH, pp 107-130  
 of Colorado, central..... W, iii, pp 361-377  
 Eagle and Grand rivers..... H, Ann 8, pp 114-120  
 Front Range..... H, Ann 8, p 42  
 Grand River district..... H, Ann 9, pp 70-79; H, Ann 10, p 178  
 northwestern..... H, Ann 10, pp 24-26  
 San Juan region..... H, Ann 8, pp 214-221  
 Sangre de Cristo Range..... H, Ann 9, pp 114-123  
 south-central, and New Mexico, north-central..... W, iii, Supp, pp 73-84  
 Spanish Peaks region..... W, 1879, p 275  
 of Colorado Plateau ..... W, iii, pp 285-287  
 of Idaho, Bear River region..... H, Ann 11, pp 616-621  
 eastern, and Wyoming, western..... H, Ann 11, pp 485-490  
 of New Mexico, north-central, and Colorado, south-central ..... W, iii,  
 Supp, pp 73-84  
 of Utah, Grand River district..... H, Ann 9, pp 70-79; H, Ann 10, p 178  
 Uinta Mountains..... UM, pp 146-153  
 of Wyoming, Green River region..... H, Ann 11, pp 616-621

- Carboniferous rocks of Wyoming, Rawlings Peak, vicinity of ..... H, Ann 11, pp 120-121  
     of Wyoming, Sweetwater Valley ..... H, Ann 11, pp 103-105  
     western, and Idaho, eastern ..... H, Ann 11, pp 485-490  
     Wind River Range, vicinity of ..... H, Ann 11, pp 73-79  
     (See, also, Names of formations.)
- Caribou Range, Idaho, geology of ..... H, Ann 11, pp 360-405
- Carpenter (W. L.), destruction of pine timber in Rocky Mountains ..... H, Ann 7, pp 538-539  
     report on alpine insect fauna of Colorado ..... H, Ann 7, pp 539-542  
     report on alpine insect fauna of Colorado and New Mexico ..... W, 1876, pp 301-305  
     report on collections made in 1873 ..... H, Ann 7, pp 537-542  
     work in charge of, report on ..... W, 1876, pp 126-130
- Carr (L.), observations on the crania from Santa Barbara Islands, California. . . W, vii, pp 277-292
- Carriso Mountains, Colorado, geology of ..... H, Ann 9, pp 274-276
- Carson City, Nevada, birds observed near ..... W, 1877, pp 1307-1322
- Carson Desert, Nevada, geology of ..... K, ii, pp 744-751
- Carson Valley, Nevada, geology of ..... W, 1877, pp 1285-1286; W, 1878, pp 168-173
- Castle Creek district, South Dakota, mineral resources of ..... BH, pp 261-266
- Castle Dome district, Nevada, notes on ..... W, 1876, pp 60-61
- Castle Peak district, California, notes on ..... W, 1878, pp 84-85
- Caswell (J. H.), microscopic petrography of Black Hills ..... BH, pp 469-527
- Cathartidæ, osteology of ..... H, Ann 12, i, pp 727-806  
     (See, also, Vertebrates.)
- Cave fauna in Utah ..... H, Bull, vol iii, No 1, pp 157-169  
     (See, also, Invertebrates.)
- Çegiha language, myths, stories, etc., in ..... Eth, vi  
     (See, also, Ethnology and archæology.)
- Cenomanian formation, plants of, table showing distribution of ..... H, Mon viii, pp 93-103
- Cenozoic and Mesozoic Unionidæ of North America, comparison with living species ..... H, Bull, vol iii, No 3, pp 615-624
- Central City, Colorado, mines of ..... H, Ann 3, pp 114-116; H, Ann 1-3, pp 114-116
- Central City district, Colorado, mines of ..... H, Ann 7, pp 280-293
- Cerro Gordo district, California, notes on ..... W, 1876, pp 62-63
- Cete, bibliography of Sirenia and ..... H, Bull, vol vi, No 3, pp 399-562
- Chaco Canyon, New Mexico, ruins in ..... H, Ann 10, pp 431-449; W, vii, pp 366-369  
     skull from, report on ..... H, Ann 10, pp 453-457
- Chalcedony, thin section of, from Nevada, Pahtson Mountains ..... K, vi, pl 12
- Chalk, analysis of, from Kansas ..... H, Ann 9, p 282; H, Bull, vol ii, No 3, p 215
- Chama River, New Mexico, pueblo and burial place in valley of. . . W, vii, pp 362-365
- Chambers (V. T.), descriptions of new Tineina from Texas, and others from more northern localities ..... H, Bull, vol iv, No 1, pp 79-106  
     index to the described Tineina of the United States and Canada ..... H, Bull, vol iv, No 1, pp 125-167  
     new Entomostraca from Colorado ..... H, Bull, vol iii, No 1, pp 151-155  
     notes on a collection of Tineid moths made in Colorado in 1875, by A. S. Packard, jr ..... H, Bull, vol iii, No 1, pp 143-145  
     Tineina and their food plants ..... H, Bull, vol iv, No 1, pp 107-123  
     Tineina in Colorado, distribution of ..... H, Bull, vol iii, No 1, pp 147-150  
     Tineina of Colorado ..... H, Bull, vol iii, No 1, pp 121-142
- Charlotte district, California, notes on ..... W, 1876, p 51
- Chelly Canyon, Arizona, ruins in ..... H, Ann 10, pp 420-425; W, vii, pp 372-373
- Chemistry of the Washoe process ..... K, iii, pp 273-293

- Chert, analysis of, from Colorado, Vermilion Creek.....K, I, p 143  
 analysis of, from Nevada, Cottonwood Canyon, vicinity of.....K, II, p 720
- Cheyenne, Wyoming, astronomical observations at .....W, Uncl 3, pp 2-45  
 geology between Denver and.....H, Ann 3, pp 11-37; H, Ann 1-3, pp 111-137  
 between Fort Fetterman and .....H, Ann 4, pp 11-24  
 between Omaha, Nebraska, and.....H, Ann 4, pp 98-112
- Cheyenne Lake (Tertiary), extent of.....K, I, pp 455-456
- Chickering (J. W.), catalogue of phænogamous and vascular cryptogamous  
 plants collected during the summers of 1873 and 1874 in Da-  
 kota and Montana along the forty-ninth parallel by Dr. Elliott  
 Coues, with which are incorporated those collected in the same  
 region by Mr. George M. Dawson...H, Bull, vol IV, No 4, pp 801-830
- Chittenden (G. B.), meteorological observations in Colorado and Montana,  
 1873.....H, Misc 6  
 topographical report on the San Juan district.....H, Ann 9, pp 351-368  
 topographical report on White River district.....H, Ann 10, pp 349-357
- Chloride mining district, New Mexico, notes on .....W, 1879, p 193
- Chrysolite, analysis of, from New Mexico, Fort Defiance.....W, 1875, p 105
- Chugwater River, Wyoming, geology near.....LOR, 1868,  
 pp 233-234; H, Ann 2, pp 79-80; H, Ann 4, pp 12-18
- Church (J. A.), preliminary report on examination at the Comstock  
 lode.....W, 1877, pp 1284-1285  
 report on examination of the Comstock lode.....W, 1878, pp 145-166
- Chut-sin-ni language, vocabulary of .....Eth, I, pp 135-142
- Ciconiidae, synopsis of American genera of Ardeidae and.....H, Bull,  
 vol IV, No 1, pp 219-251
- Cimarron, New Mexico, astronomical determinations at .....W, II, pp 403-415
- Cimarron Creek region, New Mexico, geology of .....W, III, Supp, pp 231-248
- Cinnabar Mountain, Wyoming, geology near.....H, Ann 5, pp 60-63
- Clark (J. H.), report of .....W, 1872, pp 44-45; W, 1879, pp 265-268
- Clark (J. H.) and Kampf (F.), report on astronomical observations at Chey-  
 enne, Wyoming.....W, Uncl 3, pp 2-45
- Clark (J. H.), Maryatt (W. W.), Safford (T. H.), and Kampf (F.), astro-  
 nomical determinations in Nevada, Utah, Montana, Wyoming,  
 Nebraska, Colorado, and New Mexico, 1872-74.....W, II, pp 1-491
- Clark Fork, Montana, geology near .....H, Ann 6, pp 46-48
- Clarke. See Lewis and Clarke.
- Clarke district, California, notes on.....W, 1871, p 53; W, 1876, pp 53-54
- Clay, analyses of, from Nevada, Comstock lode.....K, III, p 89
- Clay, blue, analysis of, from Yellowstone Park, Geyser Basin.....H, Ann 6, p 151
- Cliff dwellings. See Ruins.
- Climate, physiological effects of a very hot.....W, 1876, pp 328-330  
 of Arizona, Gila Valley.....W, III, pp 598-601  
 of Black Hills.....BH, pp 301-311  
 of Colorado.....H, Ann 10, pp 315-317  
 Denver district.....H, Ann 3, pp 139-142; H, Ann 1-3, pp 135-138  
 eastern, and Kansas, western.....H, Ann 4, pp 453-456  
 south-central, and New Mexico, north-central....W, III, Supp, pp 357-360  
 of Kansas, western, and Colorado, eastern.....H, Ann 4, pp 453-456  
 of Montana, notes on.....H, Ann 6, pp 809-812  
 of New Mexico, north-central, and Colorado, south-central.W, III, Supp, pp 357-360  
 northern, notes on.....W, 1875, pp 111-116  
 of Tertiary time as represented in its flora.....H, Ann 7, pp 419-425  
 of Utah, Salt Lake City.....H, Ann 5, p 236

- Climate of western States.....H, Uncl 14, pp 185-210  
of Yellowstone Park.....H, Ann 12, II, pp 486-488
- Coal, analysis of, from British Columbia, Nanaimo.....H, Ann 3, p 99;  
H, Ann 1-3, p 199; H, Ann 7, p 113  
analysis of, from British Columbia, Souris Valley.....H, Ann 7, pp 112, 114  
from California, Mount Diablo.....H, Ann 3, p 99; H, Ann 1-3, p 199;  
H, Ann 4, p 321; H, Ann 6, p 371; H, Ann 7, pp 113, 114  
from Colorado, Animas region.....H, Ann 9, p 202; H, Ann 10, p 141  
Anthracite Creek...H, Ann 8, p 176; H, Ann 9, p 203; H, Ann 10, p 137  
Boulder.....H, Ann 4, pp 182-183;  
H, Ann 9, p 203; H, Ann 10, p 141; W, III, p 633  
Boulder County.....H, Ann 4, p 321; H, Ann 6, p 371  
Boulder Creek.....H, Uncl 1, p 62  
Canyon.....H, Ann 6, p 370; H, Ann 7,  
pp 112, 114; H, Ann 9, p 203; H, Ann 10, p 141; W, III, p 633  
Cebolla Creek.....H, Ann 9, p 203  
Coal Creek (Elk Mountains).....H, Ann 8, p 175; H, Ann 9, p 203  
Coal Creek, Golden.....H, Ann 3, pp 94, 98; H, Ann 1-3, pp  
194, 198; H, Ann 7, p 112; H, Ann 9, p 203; H Uncl 1, p 62  
Colorado Springs.....H, Ann 6, p 370; H, Ann 7,  
p 112; H, Ann 9, p 203; H, Ann 10, p 141; W, III, p 633  
Cuchara River.....H, Ann 9, p 202  
Denver, vicinity of.....H, Ann 3, p 98; H, Ann 1-3, p 198  
Elk Mountains.....H, Ann 9, p 203; H, Ann 10, p 137  
Golden.....H, Ann 4, p 321; H, Ann 6, p 371; H, Ann 7,  
p 112; H, Ann 9, p 203; H, Ann 10, p 141; W, III, p 633  
Gunnison River.....H, Ann 9, p 203  
Hamilton, vicinity of.....W, III, p 391  
Oh-be-joyful Creek.....H, Ann 8, p 176; H, Ann 9, p 203  
Ralston Creek.....H, Ann 4,  
p 321; H, Ann 6, p 371; H, Ann 7, p 112; H, Ann 9, p 203  
Red Creek.....W, III, p 634  
Rock Creek.....H, Ann 8, p 177; H, Ann 9, p 203  
South Boulder Creek, Marshall mine...H, Ann 7, p 112; H, Ann 9, p 203  
Trinidad region.....H, Ann 7, p 112;  
H, Ann 9, pp 200, 201, 202; H, Ann 10, p 141; W, III, p 634  
Uncompahgre River.....H, Ann 9, pp 99, 203  
Walsenburg, vicinity of.....H, Ann 9, pp 201, 202  
from Iowa, Des Moines and Ottumwa.....H, Ann 4, p 184  
from Montana, Bozeman, vicinity of.....H, Ann 7, p 113  
Fort Ellis, vicinity of.....H, Ann 6, p 114  
from New Mexico, Los Cerillos and Placer Mountains.....W, III, p 635  
Nacimiento.....W, III, p 632  
Placer Mountains.....W, III, p 632  
Raton Mountains.....H, Ann 6, p 370; H, Ann 7, p 112  
San Lazaro Mountains.....H, Ann 4, pp 181-182  
Silver City.....W, III, p 633  
Vermejo Canyon...H, Ann 3, p 98; H, Ann 1-3, p 198; H, Ann 7, p 112  
from Oregon, Coos Bay.....H, Ann 3,  
p 99; H, Ann 1-3, p 199; H, Ann 7, pp 113, 114  
from Utah, Coalville.....H, Ann 4, p 321; H, Ann 4,  
pp 115, 371; H, Ann 7, p 113; K, III, pp 467-472, 473  
Johnsons.....H, Ann 7, p 113  
Robinsons.....H, Ann 7, p 113



- Coal, analysis of, from Utah, Spragues ..... H, Ann 7, p 113  
 analysis of, from Utah, Wasatch ..... H, Ann 7, p 113; K, III, p 473  
 from Utah, Weber River ..... H, Ann 7, pp 113, 114  
 from Washington, Bellingham Bay ..... H, Ann 3,  
 p 99; H, Ann 1-3, p 199; H, Ann 7, p 113  
 from Wyoming, Black Buttes ..... H, Ann 3,  
 p 98; H, Ann 1-3, p 198; H, Ann 7, p 112; K, III, p 473  
 Carbon ..... H, Ann 3, p 97; H, Ann 1-3, p 197; H,  
 Ann 4, p 321; H, Ann 6, pp 370, 371; H, Ann 7, pp 112, 114  
 Cooper Creek ..... K, II, p 80  
 Cooper station ..... H, Ann 4, p 185; H, Ann 7, p 112  
 Evanston ..... H, Ann 4, pp 183-184, 321;  
 H, Ann 6, pp 115, 371; H, Ann 7, p 113; K, III, p 473  
 Hallville ..... H, Ann 4, p 321; H, Ann 6, p 371; H, Ann 7, p 112  
 Point of Rocks ..... H, Ann 3, p 98; H, Ann 1-3, p 198; H,  
 Ann 4, p 186; H, Ann 7, p 112; H, Ann 11, p 126; K, III, p 473  
 Rock Creek ..... H, Ann 3, p 98; H, Ann 1-3, p 198  
 Rock Springs ..... H, Ann 4, p 321; H, Ann 6, pp 370, 371;  
 H, Ann 7, pp 112, 113; H, Ann 11, p 126; K, III, p 473  
 Separation ..... H, Ann 7, p 112; H, Ann 11, p 127; K, III, p 473  
 Van Dyke ..... H, Ann 4, p 321; H, Ann 6, p 371; H, Ann 7, p 112  
 in Colorado ..... H, Ann 4, pp 322-326; K, III, pp 481-485  
 Boulder Creek and Pole Creek .. H, Ann 3, pp 93-95; H, Ann 1-3, pp 193-195  
 Front Range, east of, character, distribution, etc., of... H, Ann 7, pp 110-128  
 Trinidad region ..... H, Ann 9, pp 195-207;  
 W, III, Supp, pp 102-126, 389-393  
 in Colorado and New Mexico ..... W, III, pp 631-636  
 in Montana, Fort Ellis, vicinity of ..... H, Ann 6, pp 113-114  
 in Nebraska ..... LOR, 1867,  
 pp 134, 137, 142-143, 154-155; H, Ann 1, pp 13, 17, 22-23, 36  
 in New Mexico, Galisteo field ..... W, III, Supp, pp 126-130  
 Trinidad field ..... W, III, Supp, pp 102-126, 389-393  
 in New Mexico and Colorado ..... W, III, pp 631-636  
 in Utah ..... H, Ann 4, pp 328-329  
 in Wyoming ..... H, Ann 4, pp 326-328  
 (See, also, Lignitic formation.)  
 Coals of the Rocky Mountains ..... H, Ann 4, pp 179-186  
 Coals, Tertiary, of the West ..... H, Ann 4, pp 318-329  
 Coal fields of Colorado ..... H, Uncl 1, pp 44-65  
 Coal Measures. (See Upper Coal Measures.)  
 Coalville, Utah, strata at ..... H, Ann 6, pp 437-450  
 Coalville district, Utah, coal at ..... K, III, pp 467-472  
 Coatis, character, distribution, etc., of ..... H, Bull, vol v, No 2, pp 153-174  
 (See, also, Vertebrates.)  
 Coleoptera collected in 1871, list of ..... H, Ann 5, pp 382-392  
 of Arizona and adjacent States ..... W, v, pp 809-827  
 of California, New Mexico, and Colorado, new species of... W, 1876, pp 296-300  
 of California and adjacent States ..... W, v, pp 809-827  
 of Colorado, eastern, and New Mexico, northeastern, list of... H, Ann 4, pp 469-470  
 lists of species collected ..... H, Ann 7, pp 566-571; H, Ann 9, pp 811-815  
 of Colorado and adjacent States ..... W, v, pp 809-827  
 of Colorado, New Mexico, and California, new species of... W, 1876, pp 296-300  
 of Idaho and Wyoming ..... H, Ann 6, p 717  
 of Nevada, Utah, California, Colorado, New Mexico, and Arizona ..... W, v,  
 pp 809-827



- Colorado, Central City district, mines of ..... H, Ann 7, pp 280-293  
 climate of ..... H, Ann 10, pp 315-317  
   of Denver district ..... H, Ann 3, pp 139-142; H, Ann 1-3, pp 135-138  
   of Kansas, western, and eastern ..... H, Ann 4, pp 453-456  
 coal in ..... H, Ann 4, pp 322-326; W, III, pp 631-636  
   Boulder Creek and Pole Creek ..... H, Ann 3, pp 93-95;  
     H, Ann 1-3, pp 193-195  
   east of Front Range, character, distribution, etc., of ... H, Ann 7, pp 110-128  
   Trinidad field ..... W, III, Supp, pp 102-126, 389-393  
 coal and iron in ..... K, III, pp 481-485  
 coal fields of ..... H, Uncl 1, pp 44-65  
 Coleoptera collected in ..... H, Ann 7, pp 566-571  
   collected in California, Nevada, Utah, Arizona, New  
     Mexico and ..... W, v, pp 809-827  
   in New Mexico, California and ..... W, 1876, pp 296-300  
 Colorado City, geology between Denver and ..... H, Ann 3,  
     pp 37-46; H, Ann 1-3, pp 137-146  
   geology between Fort Union and ..... H, Ann 3, pp 47-58  
   springs near ..... H, Ann 3, pp 118-120; H, Ann 1-3, pp 116-118  
 Colorado Springs, astronomical observations at ..... W, Uncl 3, pp 47-82  
   geology near ..... H, Ann 6, pp 100-104  
 Colorado Range, geology of ..... K, II, pp 2-72  
   geology of east slope of, from Cache la Poudre River to Pikes Peak ... H, Ann 7,  
     pp 17-36  
 Denver, birds of vicinity of ..... W, Uncl 4, pp 55-69  
   climate of vicinity of ..... H, Ann 3, pp 139-142; H, Ann 1-3, pp 135-138  
   communication between San Juan mines and, means of ..... H, Bull,  
     vol I, ser 2, No 3, pp 145-149  
   geology between Cheyenne, Wyoming, and ..... H, Ann 3,  
     pp 11-37; H, Ann 1-3, pp 111-137  
   between Colorado City and ..... H, Ann 3,  
     pp 37-46; H, Ann 1-3, pp 137-146  
 Diamond Peak, structure of ..... UM, pp 204-206  
 Dinosaurian from Dakota beds of ..... H, Bull, vol III, No 4, pp 805-806  
 Diptera collected in Arizona and ..... W, v, pp 803-807  
 Dolores River, geology near ..... H, Ann 9, pp 53-58, 263-267  
 Dry Mountains, structure of ..... UM, pp 206-208  
 Eagle River, geology along ..... H, Ann 7, pp 70-78  
 Eagle River Mountains, topographic features of ..... H, Ann 7, pp 383-384  
 Eagle River Valley, geology of ..... H, Ann 8, pp 79-84, 106-107,  
     111, 113, 114-116, 118-120, 122, 124-125, 129-130, 135, 171-172  
 elevations in ..... H, Ann 7, pp 667-669, 678-681;  
     H, Ann 8, pp 429-433, 441-442; H, Bull, vol v, No 3, pp 456-457;  
     H, Misc 1 (3d ed), pp 13-14; H, Misc 1 (4th ed) pp 62-66  
 Elk Mountains, eruptive masses in ..... H, Bull, vol III, No. 3, pp 555-557  
   geology of ..... H, Ann 7, pp 58-69, 250-261; H, Ann 8, pp 54-71  
   mines in ..... H, Ann 7, pp 304-305  
 Elkhead Mountains, geology of ..... K, II, pp 167-180  
 Empire, mines at ..... H, Ann 3, p 114; H, Ann 1-3, p 112  
 Entomostraca from ..... H, Bull, vol III, No 1, pp 151-155  
 erosion in eastern, peculiar forms of ..... H, Bull, vol I, ser 2, No 3, pp 210-211  
   some striking products of ..... H, Bull, vol IV, No 4, pp 831-864  
 eruptive mountains in, on a peculiar type of ..... H, Bull, vol III,  
     No 3, pp 551-564  
 Escalante Hills, geology of ..... K, II, pp 287-288

- Colorado, explorations in .....H, Ann 3; Ann 1-3,  
     pp 103-261; H, Ann 7; H, Ann 8; H, Ann 9; H, Ann 10  
 Fairplay, meteorological observations at.....H, Misc 6, pp 35-39  
 formations of, synopsis of.....H, Ann 10, pp 123-131  
 fishes of portion of California, Nevada, Utah, Arizona, New Mexico, and...W, v,  
     pp 635-703  
     of Tertiary shales of South Park .....H, Bull, vol I, ser 2, No 1, pp 3-5  
 flora of southwestern.....H, Bull, vol II, No 3, pp 227-248  
     synopsis of.....H, Misc 4  
 Florissant, Tertiary lake basin at.....H, Ann 12, I, pp 271-293  
 Frazier Basin, geology of.....H, Ann 7, pp 161-162.  
 Front Range, Archean rocks of .....K, I, pp 17-28  
     Denver to Colorado Springs, geology of.....H, Ann 7, pp 194-212  
     Jurassic rocks of .....K, I, pp 285-289  
     surface features of, notes on .....H, Bull, vol I, sec 2, No 4, pp 216-220  
     topographic features of .....H, Ann 9, pp 414-417  
     Triassic rocks of .....K, I, pp 249-258  
 Georgetown, astronomical determinations at.....W, II, pp 211-238  
     mines at.....H, Ann 3, pp 111-114  
 Georgetown district, mines of.....H, Ann 7, pp 293-300  
     silver mining in .....K, III, pp 589-605  
 geologic map of. (See Map, geologic, Colorado.)  
 geologic section in. (See Section, geologic, in Colorado.)  
 geological and mineralogical report on portions of New Mexico and....W, 1875,  
     pp 97-116  
 geology of north-central New Mexico and south-central...W, III, Supp, pp 3-420  
 Gilpin County, gold mining in.....K, III, pp 493-588  
     mines of.....H, Ann 7, pp 280-293  
 glaciers, ancient, in southern .....H, Ann, 9, pp 216-226  
 Gold Hill mining region, geology of.....H, Ann 7, pp 685-687  
 gold mining in Gilpin County .....K, III, pp 493-588  
 gold and silver mines of .....H, Ann 3, pp 87-89; H, Ann 1-3, pp 187-189  
 Golden, geology near.....H, Ann 3, pp 33-35; H, Ann 1-3, pp 133-135  
 Grand River Basin, cultivable areas in.....H, Ann 10, pp 332-337  
 Grand River district, geology of....H, Ann 9, pp 31-101; H, Ann 10, pp 163-185  
     topographical report on.....H, Ann 9, pp 337-350  
 Grand River Valley, geology of.....H, Ann 7, pp 158-170; H, Ann 8, pp 85-93,  
     107, 111, 113, 116, 120, 123, 125-126, 130, 135, 172-174  
 grazing areas in .....H, Ann 10, pp 344-347  
 Gunnison River, geology of vicinity of.....H, Ann 8, pp 94-105,  
     107-109, 123, 126-128, 131-137; H, Ann 9, pp 43-46  
 Hardscrabble district, note on.....W, 1876, pp 48-49  
 Hemiptera collected in New Mexico, Arizona, California, and.....W, 1877,  
     pp 1322-1334  
 Hemiptera collected in portions of California, Nevada, Utah, Arizona,  
     New Mexico, and.....W, v, pp 829-841  
 Hughes, astronomical determinations at.....W, II, pp 239-263  
 human remains found among ancient ruins in northern New Mexico and  
     southwestern.....H, Bull, vol II, No 1, pp 47-63  
 Hymenoptera collected in portions of New Mexico, Arizona, Nevada,  
     Utah, and .....W, v, pp 705-736  
 igneous rocks of, distribution, character, origin, etc., of..H, Ann 10, pp 199-272  
 industrial resources of western Kansas and eastern .....H, Ann 4, pp 442-458



- Colorado, moths, tineid, collected in, in 1875, notes on .....H, Bull,  
vol III, No 1, pp 143-145
- Mount Lincoln, meteorological observations at .....H, Miscel 6, pp 22-34
- Muddy Valley, geology of.....H, Ann 7, pp 178-184
- Myriopoda of .....H, Ann 7, p 607
- Neuroptera and pseudo-Neuroptera collected in, report on...H, Ann 7, pp 571-606  
collected in portions of Arizona, New Mexico, and .....W, v, pp 909-922
- Nevada City, mines at and near...H, Ann 3, pp 116-118; H, Ann 1-3, pp 114-116
- North Park, geology of.....LOR, 1868, pp 237-242;  
H, Ann 2, pp 85-88; H, Ann 4, pp 124-128; K, II, pp 112-129
- northwestern, report on portion of .....H, Ann 10, pp 3-60
- Orthoptera collected in California, New Mexico, and .....W, 1876, pp 278-295  
collected in California, Nevada, Utah, Arizona, New Mexico, and  
portions of.....W, v, pp 843-908  
collected in, list of.....H, Bull, vol II, No 3, pp 261-267
- Pagosa Springs, geology of.....H, Ann 9, pp 183-185
- Park province, structure of.....UM, pp 26-29
- Park Range, Archean rocks of .....K, I, pp 36-42  
geology of .....H, Ann 7, pp 39-48, 225-229; K, II, pp 130-141  
topographic features of .....H, Ann 9, pp 378-381  
trachyte of.....K, I, pp 582-585
- passes in the high mountains.....H, Ann 7, p 675
- physical features of .....K, III, pp 476-480
- Physopoda, Tertiary of.....H, Bull, vol I, ser 2, No 4, pp 221-223
- plants collected in Nevada, Utah, Arizona, New Mexico and, catalogue of,  
with descriptions of new species .....W, VI, pp 53-297  
collected in Wyoming, New Mexico and, catalogue of...H, Ann 4, pp 472-487
- precious metals in .....K, III, pp 485-492
- Purgatory River region, agricultural resources of .....W, III, Supp, pp 379-381  
geology of .....W, III, Supp, pp 195-224
- Red Creek, Archean rocks of.....K, II, pp 269-271
- reptiles and batrachians collected in portions of California, Nevada,  
Utah, Arizona, New Mexico, and.....W, v, pp 509-584
- Rio Grande drainage basin, geology of.....H, Ann 9, pp 153-167
- Rio Grande region, geology of.....W, III, Supp, pp 313-321
- roads and trails in.....H, Ann 9, pp 347-350
- Rocky Mountains, notes on.....H, Bull, vol I, ser 1, No 2, pp 72-77
- Rocky Mountains, topographic features of crest of, south of Tennessee  
Pass.....H, Ann 9, pp 373-377
- ruins, ancient, in southwestern...H, Ann 8, pp 367-381; H, Ann 10, pp 383-452;  
H, Bull, vol I, ser 2, No 1, pp 17-30; H, Bull, vol II, No 1, pp 3-24
- Saguache Range. (See Sawatch Range.)
- St. Vrain Creek, geology near.....H, Ann 3, pp 27-28; H, Ann 1-3, pp 127-128
- San Juan Mountains, geology of.....W, 1875, pp 100-101
- San Juan region, communication between Denver and, means of .....H, Ann 8,  
pp 443-449  
geology of .....H, Ann 8, pp 187-240;  
H, Ann 9, pp 241-276; H, Bull, vol I, ser 2, No 3, pp 151-164
- mines of .....H, Ann 8, pp 229-238;  
H, Bull, vol I, ser 2, No 3, pp 151-164
- topography of .....H, Ann 8, pp 451-496;  
H, Ann 9, pp 353-368; H, Bull, vol I, ser 2, No 3, pp 195-210
- San Juan River, ruins and cave dwellings on .....H, Bull, vol II, No 1, pp 7-10
- San Juan Valley, geology of .....H, Ann 9, pp 248-251
- San Luis district, geology of.....H, Ann 7, pp 305-351

- Colorado, San Luis Valley, agriculture in ..... H, Ann 4, pp 197-202
- San Luis Valley, cultivable areas in ..... H, Ann 10, pp 328-330
- geology and topography of ..... H, Ann 9, pp 140-149
- physical features of ..... W, 1876, pp 86-88
- San Miguel Mountains, geology of ..... H, Ann 10, pp 193-195
- San Miguel region, physical features of ..... W, 1876, pp 98-100
- Sangre de Cristo Range, geology of ..... H, Ann 9, pp 108-139
- Sawatch Range, geology of ..... H, Ann 9, pp 150-175
- section, geologic, in. (See Section, geologic, in Colorado.)
- Sierra El Late, geology of ..... H, Ann 9, pp 272-274
- silver and gold mines of ..... H, Ann 3, pp 87-89; H, Ann 1-3, pp 187-189
- silver mining in Georgetown district ..... K, III, pp 589-605
- Snake River region, silver mines in ..... K, III, pp 617-624
- Sneffels, Mount, ascent of ..... H, Bull, vol I, ser 2, No 3, pp 193-199
- Sopris Peak, geology of ..... H, Ann 8, pp 61-63
- South Park, fishes of Tertiary shales of ..... H, Bull, vol I, ser 2, No 1, pp 3-5
- geology of ..... H, Ann 3, pp 79-81; H, Ann 1-3, pp 179-181; H, Ann 7, pp 36-39, 212-225
- topographic features of ..... H, Ann 9, pp 419-431
- South Platte drainage basin, cultivable areas on ..... H, Ann 10, pp 323-326
- Spanish Peaks, description of ..... H, Bull, vol III, No 3, pp 551-552
- volcanic rocks of ..... H, Ann 9, pp 131-136
- Spanish Peaks region, geology of ..... W, 1879, pp 271-281
- spiders from, descriptions of two new ..... H, Bull, vol III, No 2, pp 528-529
- springs near Colorado City ..... H, Ann 3, pp 118-120; H, Ann 1-3, pp 116-118
- stratigraphy and Pliocene vertebrate paleontology of northern ..... H, Bull, vol I, ser 1, No 1, pp 9-28
- Tarryall Range, topographic features of ..... H, Ann 9, pp 411-412
- temperature in, compared with eastern cities ..... H, Ann 9, p 355
- Tertiary lake basin at Florissant ..... H, Bull, vol VI, No 2, pp 279-300
- Tineina of ..... H, Bull, vol III, No 1, pp 121-142
- distribution of ..... H, Bull, vol III, No 1, pp 147-150
- topographic map of. (See Map, topographic, Colorado.)
- triangulation in ..... H, Bull, vol III, No 3, pp 706-728; H, Ann 10, pp 275-310
- Trinidad, astronomical determinations at ..... W, II, pp 289-312
- Trinidad region, geology of ..... H, Ann 9, pp 192-207
- Uinta Mountains, geology of eastern portion of ..... UM
- Uncompahgre Plateau, geology and topography of ..... H, Ann 9, pp 40-43, 49-50
- Uncompahgre region, physical features of ..... W, 1876, pp 95-97
- Vermillion Creek, rocks exposed on ..... K, I, pp 142-144
- Vermillion Creek Basin, geology of ..... K, II, pp 225-227, 275-277
- vertebrate paleontology of ..... H, Ann 7, pp 427-533
- water resources of western Kansas and eastern ..... H, Ann 4, pp 448-452
- West Plum Creek, geology near ..... H, Ann 3, p 40; H, Ann 1-3, p 140
- White River district, geology of ..... H, Ann 10, pp 61-131
- topographical report on ..... H, Ann 10, pp 349-357
- Williams River Mountains, geology of ..... H, Ann 7, pp 189-192
- Yampa Plateau, geology of ..... K, II, pp 282-286
- structure of ..... UM, pp 202-203
- Yampa River district, topographical report on ..... H, Ann 10, pp 359-378
- Yampa Valley, geology of upper ..... K, II, pp 181-187
- Yampa Valley and Browns Park, geology of ..... K, II, pp 222-225
- (See, also, Fortieth Parallel region.)
- Colorado City, Colorado, geology between Denver and ..... H, Ann 3, pp 37-46; H, Ann 1-3, pp 137-146

- Colorado City, Colorado, geology between Fort Union and.....H, Ann 3, pp 47-58  
 springs near .....H, Ann 3, pp 118-120; H, Ann 1-3, pp 116-118
- Colorado district, Nevada, notes on.....W, 1876, pp 61-62
- Colorado group, fossils of, from Bear River Valley, Colorado, list of...H, Ann 11, p 266  
 of Colorado, Colorado Range.....K, II, pp 41-45  
   Huerfano Park.....H, Ann 9, pp 126-127  
   northwestern.....H, Ann 10, pp 30-31  
   San Juan drainage basin.....H, Ann 9, pp 183-187  
   south central, and New Mexico, north central.....W, III, Supp, pp 95-101  
   Spanish Peaks region.....W, 1879, pp 276-277  
   White River district.....H, Ann 10, pp 75-76, 109
- of Fortieth Parallel region.....K, I, p 305-320
- of New Mexico, north-central, and Colorado, south-central.....W, III, Supp, pp 95-101
- of Utah, White River district.....H, Ann 10, pp 74-75, 109
- of Wyoming, Colorado Range.....K, II, pp 41-45  
   Sweetwater Valley.....H, Ann 11, p 109  
   Whisky Gap, vicinity of.....H, Ann 11, pp 122-123  
   Wind River Range, vicinity of.....H, Ann 11, p 85  
 (See, also, Cretaceous No. 2.)
- Colorado Plateau, geology of.....W, III, pp 227-301
- Colorado Plateau system, description of.....W, III, pp 43-57
- Colorado or Front Range, Colorado-Wyoming, Archean rocks of.....K, I, pp 17-28  
 of east slope, geology of, from Cache la Poudre River to Pikes Peak...H, Ann 7, pp 17-36  
 geology of.....H, Ann 4, pp 112-119; H, Ann 8, pp 40-46; K, II, pp 2-72  
   from Denver to Colorado Springs.....H, Ann 7, pp 194-212
- Jurassic rocks of.....K, I, pp 285-289
- surface features of, notes on.....H, Bull, vol I, ser 2, No 4, pp 216-220
- topographic features of.....H, Ann 9, pp 414-417
- Triassic rocks of.....K, I, pp 249-258
- Colorado River, canyons of.....W, III, pp 67-85  
 diversion of, proposed.....W, 1876, pp 70-77, 109-125  
 explorations of, account of.....W, I, pp 147-171; ECR, pp 3-145  
 irrigable lands in basin of, in Utah.....AL, pp 150-164
- Colorado Valley, birds of, a repository of information concerning North American ornithology.....H, Miscel 11  
 physical features of.....ECR, pp 149-214
- Colorado Springs, Colorado, astronomical observations at.....W, Uncl 3, pp 47-82  
 geology near.....H, Ann 6, pp 100-104
- Coloradoite, analysis of, from Colorado, Ballerat district, Smuggler mine, and Boulder County, Keystone mine.....H, Ann 10, p 142
- Columbus district, Nevada, notes on.....W, 1871, p 48
- Comstock lode, mines of, workings of.....K, III, pp 97-191  
 ores of, treatment of.....K, III, pp 193-272  
 reports on.....W, 1877, pp 1284-1285; W, 1878, pp 145-166  
 structure, ores, etc., of.....K, III, pp 37-96
- Confidence district, California, notes on.....W, 1878, pp 86-87
- Conglomerate, analysis of, from Wyoming, Blacks Fork, vicinity of.....K, II, p 248
- Conglomerates, formation of.....HP, pp 214-224  
 of Utah, high plateaus.....HP, pp 74-77
- Conklin (A. R.), geological report on portions of western Nevada and eastern California.....W, 1878, pp 167-183



- Conklin (A. R.), geological report on the portions of western Nevada and eastern California between the parallels of 39° 30' and 38° 30' explored in the field season of 1876.....W, 1877, pp 1285-1295  
 report on the foothills facing the plains from latitude 35° 30' to 38°....W, 1877, pp 1298-1303  
 report on the geology of the mountain ranges from La Veta Pass to the head of the Pecos.....W, 1876, pp 199-202  
 report on the lithology of southern Colorado and northern New Mexico, W, 1877, pp 1295-1298  
 report on the lithology and mineralogy of portions of Nevada and California.....W, 1878, pp 184-185
- Conrad (T. A.), descriptions of new mollusks from Cretaceous beds of Colorado.....H, Ann 7, pp 455-456
- Contour map of United States, notes on.....H, Bull, vol II, No 3, pp 223-226
- Coopers Creek, Wyoming, geology near.....LOR, 1868, pp 242-243;  
 H, Ann 2, pp 89-90
- Cope (E. D.), contribution to the knowledge of the ichthyological fauna of the Green River shales.....H, Bull, vol III, No 4, pp 806-819  
 descriptions of fishes from the Cretaceous and Tertiary deposits west of the Mississippi River.....H, Bull, vol IV, No 1, pp 67-77  
 descriptions of new extinct vertebrata from the upper Tertiary and Dakota formations.....H, Bull, vol IV, No 2, pp 379-396  
 notes on the Eocene and Pliocene lacustrine formations of New Mexico, including descriptions of certain new species of vertebrates..W, 1874, pp 115-130  
 observations on the faunæ of the Miocene Tertiaries of Oregon...H, Bull, vol V, No 1, pp 55-69  
 on a carnivorous Dinosaurian from the Dakota beds of Colorado...H, Bull, vol III, No 4, pp 805-806  
 on a wading bird from the Amyzon shales.....H, Bull, vol VI, No 1, pp 83-85  
 on some new batrachia and reptilia from the Permian beds of Texas. H, Bull, vol VI, No 1, pp 79-82  
 on the Canidæ of the Loup Fork epoch.....H, Bull, vol VI, No 2, pp 387-390  
 on the extinct species of Rhinoceriðæ of North America and their allies. H, Bull, vol V, No 2, pp 227-237  
 on the extinct vertebrata of the Eocene of Wyoming, observed by the expedition of 1872, with notes on the geology...H, Ann 6, pp 543-649  
 on the fishes of the Tertiary shales of Green River, Wyoming.....H, Ann 4, pp 425-431  
 on the fishes of Tertiary shales of the South Park.....H, Bull, vol I, ser 2, No 1, pp 3-5  
 on the fossil reptiles and fishes of the Cretaceous rocks of Kansas.....H, Ann 4, pp 385-425  
 on the genus *Erisichte*.....H, Bull, vol III, No 4, pp 821-823  
 on the geology and paleontology of the Cretaceous strata of Kansas...H, Ann 5, pp 318-349  
 on the Nimravidæ and Canidæ of the Miocene period.....H, Bull, vol VI, No 1, pp 165-181  
 on the Plagopterinæ and the ichthyology of Utah.....W, Uncl 8  
 on the vertebrata of the Wind River Eocene beds of Wyoming..H, Bull, vol VI, No 1, pp 183-202  
 on the vertebrate fossils of the Wahsatch strata.....H, Ann 5, pp 350-353  
 Professor Owen on the Pythonomorpha.....H, Bull, vol IV, No 1, pp 299-311

- Cope (E. D.), recent reptiles and fishes; report on the reptiles and fishes obtained by the naturalists of the expedition...H, Ann 4, pp 432-442
- report on geology of northwestern New Mexico.....W, 1875, pp 61-97
- report on geology of the region of the Judith River, Montana, and on vertebrate fossils obtained on or near the Missouri River.....H, Bull, vol III, No 3, pp 565-597
- report on the recent reptiles and fishes of the survey, collected by Campbell Carrington and C. M. Dawes.....H, Ann 5, pp 467-476
- report on the remains of population observed in northwestern New Mexico .....W, VII, pp 351-361
- report on the remains of population observed on and near the Eocene plateau of northwestern New Mexico .....W, 1875, pp 166-173
- report on the stratigraphy and Pliocene vertebrate paleontology of northern Colorado .....H, Bull, vol I, ser 1, No 1, pp 9-28
- report on the vertebrate paleontology of Colorado .....H, Ann 7, pp 427-533
- report upon the extinct vertebrata obtained in New Mexico by parties of the expedition of 1874.....W, IV, part II
- review of the Rodentia of the Miocene period of North America .....H, Bull, vol VI, No 2, pp 361-386
- review of the vertebrata of the Cretaceous period found west of the Mississippi River.....H, Bull, vol I, ser 1, No 2, pp 5-48
- supplementary notices of fishes from the fresh-water Tertiaries of the Rocky Mountains.....H, Bull, vol I, ser 1, No 2, pp 49-51
- systematic catalogue of the vertebrata of the Eocene of New Mexico..W, Uncl 9
- the relations of the horizons of extinct vertebrata of Europe and North America.....H, Bull, vol V, No 1, pp 33-54
- the vertebrata of the Cretaceous formations of the West .....H, Mon II
- the vertebrata of the Tertiary formations of the West.....H, Mon III
- Cope (E. D.) and Yarrow (H. C.), report upon the collections of fishes made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871-1874.....W, V, pp 635-703
- Cope district, Nevada, notes on .....W, 1871, p 34
- Copper ore, analysis of, from Arizona, San Francisco River.....W, III, p 636
- analysis of, from New Mexico, Springhill district.....W, III, p 636
- Coprolite, analysis of, from Kansas.....H, Ann 9, p 286; H, Bull, vol II, No 3, p 217
- Correlation of Archean rocks exposed in Fortieth Parallel area.....K, I, pp 99-111
- Cortez district, Nevada, mining in.....K, III, pp 405-407
- Cortez Range, Nevada, geology of.....K, II, pp 570-589
- granite of.....K, I, pp 70-74
- Cottonwood Canyon, Utah, Paleozoic rocks of.....K, I, pp 165-172
- Coues (E.), abstract of a study of the genera *Geomys* and *Thomomys*.....ECR, pp 217-279
- an account of the various publications relating to the travels of Lewis and Clarke, with a commentary on the zoological results of their expedition.....H, Bull, vol I, ser 2, No 6, pp 417-444
- bibliography of American ornithology .....H, Bull, vol V, No 2, pp 239-330; H, Bull, vol V, No 3, pp 521-1066
- birds of the Colorado Valley .....H, Misc 11
- birds of the Northwest.....H, Misc 3
- field notes on birds observed in Dakota and Montana along the forty-ninth parallel during seasons of 1873 and 1874..H, Bull, vol IV, No 3, pp 545-661
- fur-bearing animals.....H, Misc 8
- on a breed of solid-hoofed pigs, apparently established in Texas..H, Bull, vol IV, No 1, pp 295-297

- Coues (E.), on consolidation of the hoofs in the Virginian deer..H, Bull, vol iv, No 1,  
pp 293-294
- on the breeding habits, nest, and eggs of the white-tailed ptarmigan (*Lagopus leucurus*).....H, Bull, vol i, ser 2, No 5, pp 263-266
- on the cranial and dental characters of Mephitinæ, with descriptions of  
*Mephitis frontata* .....H, Bull, vol i, ser 2, No 1, pp 7-15
- on the present status of *Passer domesticus* in America, with special refer-  
ence to the Western States and Territories....H, Bull, vol v, No 2,  
pp 175-193
- precursory notes on American insectivorous mammals, with descriptions of  
new species.....H, Bull, vol iii, No 3, pp 631-653
- some account, critical, descriptive, and historical, of *Zapus hudsonius*..H, Bull,  
vol i, ser 2, No 5, pp 253-262
- the cranial and dental characters of Geomyidæ.....H Bull, vol i, ser 2, No 2,  
pp 83-90
- synopsis of the reptiles and batrachians of Arizona .....W, v, pp 585-633
- Coues (E.) and Allen (J. A.), monographs of North American Rodentia..H, Mon xi
- Coues (E.) and Yarrow (H. C.), notes on the herpetology of Dakota and  
Montana.....H, Bull, vol iv, No 1, pp 259-291
- report upon the collections of mammals made in portions of Nevada, Utah,  
California, Colorado, New Mexico, and Arizona, 1871-1874....W, v,  
pp 35-129
- Coulter (J. M.), botany, report on [1872].....H, Ann 6, pp 747-792
- Coulter (J. M) and Porter (T. C.), synopsis of the flora of Colorado.....H, Misc 4
- Cranberry, insects affecting .....H, Ann 10, pp 521-526
- Crania from Santa Barbara Islands, California, observations on..W, vii, pp 277-292  
(See, also, Ethnology and archæology.)
- Crania and skeletons collected in 1872-1874, notes on.....W, vii, pp 391-397  
(See, also, Ethnology and archæology.)
- Cranial amulets and prehistoric trephining.....Eth, v  
(See, also, Ethnology and archæology.)
- Cranium from Chaco Canyon, New Mexico, report on.....H, Ann 10, pp 453-457  
(See, also, Ethnology and archæology.)
- Crayfish from Lower Tertiary beds of western Wyoming.....H, Bull,  
vol vi, No 2, pp 391-397
- Cresson (E. T.), report on the collections of Hymenoptera made in portions of  
Nevada, Utah, New Mexico, Colorado, and Arizona, 1872-1874..W, v,  
pp 705-736
- Cretaceous No. 1 of Colorado, east of Front Range .....H, Ann 7, pp 100-101  
of Colorado, San Juan region.....H, Ann 8, pp 222-224  
(See, also, Dakota group.)
- Cretaceous No. 2 of Colorado, east of Front Range.....H, Ann 7, pp 101-102  
of Colorado, San Juan region.....H, Ann 8, pp 224-228  
(See, also, Colorado group.)
- Cretaceous No. 2 and No. 3 of Colorado; Eagle, Grand, and Gunnison rivers..H,  
Ann 8, pp 135-137
- Cretaceous No. 3 of Colorado, east of Front Range .....H, Ann 7, pp 102-103
- Cretaceous No. 4 and No. 5 of Colorado, east of Front Range..H, Ann 7, pp 103-105
- Cretaceous fossils, geographical distribution of, table showing..H, Ann 11, pp 252-253
- invertebrates, corals of Colorado, remarks on...H, Bull, vol v, No 2, pp 220-221
- mollusks of Colorado.....H, Ann 7, pp 455-456
- of Arizona, Utah, Colorado, and New Mexico.....W, iv, pp 169-205
- of Black Hills .....BH, pp 383-459; PBH, pp 27-46
- of Colorado.....H, Ann 11, pp 175-177, 197, 205-207, 224-225, 265-266

- Cretaceous fossils; invertebrates of Colorado, Bear Creek Valley, list of...H, Ann 11, pp 265-266
- invertebrates of Colorado, Cache la Poudre Valley and Fossil Ridge...H, Ann 11, pp 175-177
- of Colorado, Golden and Morrison, list of .....H, Ann 11, p 197
- Greeley, vicinity of .....H, Ann 11, p 266
- Sage Creek .....H, Ann 11, pp 205-207
- White River Indian Agency, vicinity of .....H, Ann 11, pp 224-225
- of Colorado, New Mexico, Utah, and Arizona .....W, iv, pp 169-205
- of Fortieth Parallel region.....K, iv, pp 140-182
- of Fox Hills group of Colorado, east of Rocky Mountains.....H, Ann 11, pp 179-186, 266
- of New Mexico, list of.....H, Ann 11, pp 267-268
- of New Mexico and Utah .....W, Uncl 6, pp 24-27
- of New Mexico, Utah, Arizona, and Colorado .....W, iv, pp 169-205
- of Plateau province .....UM, pp 94-101, 112-124
- of Southwest.....W, iv, pp 169-205
- of Texas; Denison, Hilotes, and Salado, list of .....H, Ann 11, pp 268-270
- of Utah, Ashley Fork .....H, Ann 11, p 229
- Coalville .....H, Ann 11, pp 232-239
- of Utah and New Mexico.....W, Uncl 6, pp 24-27
- of Utah and Wyoming, list of, collected in 1871.....H, Ann 5, pp 375-376
- of Utah, Colorado, New Mexico, and Arizona.....W, iv, pp 169-205
- of western States and Territories.....H, Ann 11, pp 273-319;  
H, Ann 12, i, pp 3-39
- descriptions of new species of.....H, Ann 4, pp 300-318
- list of.....H, Bull, vol iii, No. 3, p 610
- of Wyoming, Bear River Valley and Hilliard station..H, Ann 11, pp 248-250
- of Wyoming and Utah, list of.....H, Ann 5, pp 375-376  
(See, also, Invertebrates, fossil.)
- of Colorado, various localities .....H, Ann 11, pp 175-177, 197,  
205-207, 224-225, 265-266
- of Montana, Utah, and Wyoming.....H, Ann 6, pp 435-462, 474-478, 487-516
- of New Mexico, Cimarron, list of.....H, Ann 11, pp 267-268
- of Utah and Wyoming, list of .....H, Ann 5, pp 375-376
- of Utah, Wyoming, and Montana.....H, Ann 6, pp 435-462, 474-478, 487-516
- of western States and Territories .....H, Ann 4,  
pp 300-318; H, Ann 11, pp 273-319; H, Ann 12, i, pp 3-39
- of Wyoming, Bear River Valley.....H, Ann 11, pp 248-249
- Hilliard station .....H, Ann 11, pp 249-250
- of Wyoming and Utah.....H, Ann 5, pp 375-376
- of Wyoming, Utah, and Montana.....H, Ann 6, pp 435-462, 474-478, 487-516  
(See, also, Vertebrates, fossil; Invertebrates, fossil.)
- plants of Cretaceous and Tertiary formations of Kansas and Nebraska..H, Ann 4,  
pp 370-385
- of Cretaceous and Tertiary of North America, catalogue of .....H, Ann 10,  
pp 487-520
- of Territories, illustrations of.....H, Uncl 15
- of Dakota group, general characters and relation of.....H, Bull,  
vol i, ser 1, No 2, pp 52-62
- new species of.....H, Bull, vol i, ser 2, No 5, pp 391-400.
- of western Territories.....H, Mon vi
- of North America, review of .....H, Ann 8, pp 316-365  
(See, also, Plants, fossil.)
- vertebrates, Dinosaurian, carnivorous, from Dakota beds of Colorado...H, Bull,  
vol iii, No 4, pp 805-806

- Cretaceous fossils, vertebrates, fishes of Cretaceous and Tertiary west of Mississippi River ..... H, Bull, vol iv, No 1, pp 67-77
- vertebrates of Colorado ..... H, Ann 7, pp 444-456
- of Dakota and upper Tertiary formations. H, Bull, vol iv, No 2, pp 379-396
- of Kansas ..... H, Ann 5, pp 327-349
- of Missouri River region ..... H, Bull, vol iii, No 3, pp 577-597
- of North America, synopsis of ..... H, Mon ii, pp 245-302
- of West ..... H, Mon ii; H, Bull, vol i, ser 1, No 2, pp 5-48
- reptiles and fishes of interior region ..... H, Mon i, pp 266-310
- of Kansas ..... H, Ann 4, pp 385-425
- (See, also, Vertebrates, fossil.)
- (See, also, Laramie fossils; Cretaceous and Tertiary fossils.)
- Cretaceous rocks, classification and distribution of ..... H, Mon ii, pp 15-41
- of Basin Ranges ..... W, iii, p 174
- of Black Hills ..... BH, pp 169-186
- of Colorado, central ..... W, iii, pp 382-403
- Eagle, Grand, and Gunnison rivers ..... H, Ann 8, pp 128-139
- Front Range ..... H, Ann 8, pp 45-46
- east of ..... H, Ann 7, pp 100-105
- Grand River district ..... H, Ann 9, pp 87-92; H, Ann 10, pp 180-181
- Huerfano Park ..... H, Ann 1, pp 123-127
- Middle Park ..... H, Ann 7, pp 154-156
- northwestern ..... H, Ann 10, pp 28-32
- San Juan drainage basin ..... H, Ann 9, pp 180-189
- San Juan region ..... H, Ann 8, pp 221-228; H, Ann 9, pp 257-263
- south-central, and New Mexico, north-central ..... W, iii, Supp, pp 88-130
- White River district ..... H, Ann 10, pp 74-77
- of Colorado Plateau ..... W, iii, pp 274-280
- of Fortieth Parallel region ..... K, i, pp 296-339, 347-357
- of Idaho, eastern, and Wyoming, western ..... H, Ann 11, p 497
- of Kansas ..... H, Ann 9, pp 281-294
- geology and paleontology of ..... H, Ann 5, pp 318-349
- notes on ..... H, Bull, vol ii, No 3, pp 214-221
- of Missouri River region, upper ..... H, Mon ix, pp xxi-xxxviii
- parallelism with Cretaceous of Europe ..... H, Mon ix, pp xliii-xlvii
- relation to beds of the Mississippi ..... H, Mon ix, pp xxxviii-xlii
- of Nebraska ..... LOR, 1867, pp 167-173; H, Ann 1, pp 49-55
- of New Mexico, north-central, and Colorado, south-central ..... W, iii, Supp, pp 88-130
- of Utah, Henry Mountains ..... HM, pp 4-5
- high plateaus ..... HP, pp 154-158
- Uinta Mountains ..... UM, pp 153-158
- White River district ..... H, Ann 10, pp 74-77, 108-109
- of West, mutual relations of Tertiary and ..... H, Ann 7, pp 431-444
- of Wyoming, Sweetwater Valley ..... H, Ann 11, pp 108-109
- western ..... H, Ann 11, p 629
- western, and Idaho, eastern ..... H, Ann 11, p 497
- Wind River Range, east of ..... H, Ann 11, pp 84-87
- (See, also, Laramie; names of formations.)
- Cretaceous uplift of Bitter Creek, Wyoming ..... K, ii, pp 227-236
- of Oyster Ridge, Wyoming ..... K, ii, pp 250-253
- Cretaceous and Tertiary fossils, fishes west of Mississippi River. H, Bull, vol iv, No 1, pp 67-77

- Cretaceous and Tertiary fossils, invertebrates of upper Missouri country...H, Mon ix  
 plants of Kansas and Nebraska, fossil.....H, Ann 4, pp 370-385  
 of North America, catalogue of .....H, Ann 10, pp 487-520  
 of western Territories .....H, Mon viii  
 illustrations of .....H, Uncl 15  
 (See, also, Invertebrates, fossil; Vertebrates, fossil; Plants, fossil.)
- Cretaceous and Tertiary periods of Kansas, notes on.....H, Ann 9, pp 277-294
- Cretaceous and Tertiary formations of the West, mutual relations of.....H, Bull,  
 vol i, ser 1, No 2, pp 5-16
- Crow Creek, Wyoming, geology near .....H, Ann 11, p 554
- Crustacean, Lernaean, of Colorado, description.....H, Ann 7, p 612
- Crustaceans, amphipod, report on .....H, Ann 7, pp 608-611  
 fresh-water phyllopod, of North America, synopsis of.....H, Ann 7, pp 613-622  
 phyllopod, bibliography of .....H, Ann 12, i, pp 453-457  
 of North America, monograph of.....H, Ann 12, i, pp 295-457  
 of the West, descriptions of new .....H, Bull, vol iii, No 1, pp 171-185  
 (See, also, Invertebrates.)
- Cultivation, experiments in, on the plains along the line of the Kansas Pacific  
 Railway .....H, Ann 5, pp 274-279
- Cup-shaped and lapidarian sculptures in the Old World and America .....Eth, v  
 (See, also, Ethnology and archæology.)
- Crystalline schists of Fortieth Parallel region, microscopic petrography of ....K, vi,  
 pp 14-38
- Dakota, ancient mounds of .....H, Ann 6, pp 655-658  
 birds of Fort Sisseton, notes on.....H, Bull, vol v, No 1, pp 71-103  
 of Montana and along forty-ninth parallel, field notes on.....H, Bull,  
 vol iv, No 3, pp 545-661  
 elevations in.....H, Misc 1 (3d ed), p 13; H, Misc 1 (4th ed), pp 66-67  
 fishes of Montana and, collected in 1873 and 1874, report on .....H, Bull,  
 vol iv, No 4, pp 777-799
- Hemiptera collected in Montana and, in 1873-74.....H, Bull,  
 vol iv, No 2, pp 503-512
- herpetology of Montana and .....H, Bull, vol iv, No 1, pp 259-291
- locusts in.....H, Ann 9, p 621; H, Uncl 14, pp 88-92, App, pp 243-248
- mammals of Fort Sisseton.....H, Bull, vol iv, No 1, pp 201-218
- physical geography and agricultural resources of Nebraska, Minnesota,  
 and .....H, Ann 6, pp 273-313
- Orthoptera collected in Montana and, in 1873, discussion of .....H, Bull,  
 vol iv, No 2, pp 481-501
- plants collected in Montana and, along forty-ninth parallel, catalogue of  
 H, Bull, vol iv, No 4, pp 801-830
- Dakota group, considered as a marine formation .....H, Mon vi, pp 25-28  
 flora of.....H, Mon vi; H, Mon viii, pp 2-107  
 general characters and relation of .....H, Bull, vol i, ser 1, No 2, pp 52-62  
 invertebrate fossils of, from the West, list of .....H, Bull, vol iii, No 3, p 610  
 of Black Hills .....BH, pp 174-180  
 of Colorado, Colorado Range.....K, ii, pp 39-41  
 Dinosaurian from .....H, Bull, vol iii, No 4, pp 805-806  
 Eagle, Grand, and Gunnison rivers.....H, Ann 8, pp 128-135  
 Grand River district.....H, Ann 9, pp 88-91; H, Ann 10, p 180  
 Huerfano Park .....H, Ann 9, pp 124-126  
 northwestern .....H, Ann 10, pp 29-30  
 San Juan drainage basin... ..H, Ann 9, pp 181-183  
 south-central, and New Mexico, north-central.....W, iii, Supp, pp 88-94

- Dakota group of Colorado, Spanish Peak region.....W, 1879, p 276  
of Colorado, White River district .....H, Ann 10, pp 74-75, 108  
of Fortieth Parallel region .....K, I, pp 298-305  
of Kansas .....H, Ann 9, pp 290-294  
of Missouri country, upper.....H, Mon IX, pp xxvi-xxviii  
of Nebraska .....LOR, 1867, pp 168-171; H, Ann 1, pp 50-53  
of New Mexico, north-central, and Colorado, south-central .....W, III,  
Supp, pp 88-94  
of Utah, White River district.....H, Ann 10, pp 74-75, 108  
of Wyoming, Colorado Range .....K, II, pp 39-41  
Seminole Hills, vicinity of .....H, Ann 11, p 121  
Sweetwater Valley .....H, Ann 11, pp 108-109  
Wind River Range, vicinity of .....H, Ann 11, p 84  
plants of, new species of.....H, Bull, vol I, ser 2, No 5, pp 391-400  
vertebrata from upper Tertiary and .....H, Bull,  
vol IV, No 2, pp 379-396; H, Bull, vol IV, No 3, pp 663-667  
(See, also, Cretaceous No 1.)
- Dakota nation, calendar of.....H, Bull, vol III, No 1, pp 3-25  
texts and ethnography.....Eth, IX  
(See, also, Ethnology and archæology.)
- Dakota-English dictionary.....Eth, VII  
(See, also, Ethnology and archæology.)
- Dacite, analysis of, from Italy, Monte Alto.....K, VI, p 137  
analysis of, from Karinthia, New Prevali .....K, VI, p 137  
from Nevada, American City.....K, VI, p 136  
Shoshone Peak.....K, II, p 621  
Washoe and Shoshone Peak.....K, I, p 576  
from Transylvania, various localities.....K, VI, p 137  
of Nevada, microscopic petrography of .....K, VI, pp 134-142  
of Nevada Plateau.....K, I, pp 567-571
- Dall (W. H.), terms of relationship used by the Inuit .....Eth, I, pp 117-119  
tribes of the extreme Northwest.....Eth, I, pp 1-106
- Dance at the pueblo of Zuni, description of.....W, VII, pp 332-336  
(See, also, Ethnology and archæology.)
- Deep Spring Valley district, California, notes on.....W, 1871, pp 49-50
- Deer, Virginian, consolidation of hoofs of.....H, Bull, vol IV, No 1, pp 293-294  
(See, also, Vertebrates.)
- Denmark, primitive lapidarian sculptures in .....Eth, V, pp 25-28
- Denver, Colorado, birds collected in vicinity of.....W, Uncl 4, pp 55-69  
communication between San Juan mines and, means of .....H, Bull,  
vol I, ser 2, No 3, pp 145-149  
geology between Cheyenne and ...H, Ann 3, pp 11-37; H, Ann 1-3, pp 111-137  
between Colorado City and ...H, Ann 3, pp 37-46; H, Ann 1-3, pp 137-146
- Deposit at Soda Lakes, Nevada, analysis of .....K, II, p 748
- Deposit, mineral, analysis of, from Nevada, Bardmass Pass, vicinity of...K, II, p 687
- Deposit, spring, analysis of, from Nevada, Shoshone Range.....K, II, p 634
- Desatoya Mountains, Nevada, geology of .....K, II, pp 644-649  
Triassic rocks of.....K, I, pp 282-284
- Desert Mountains, Utah, granite of .....K, I, p 55
- Desiccation products, analysis of, from Lake Bonneville.....K, I, p 502  
analysis of, from Lake Lahontan.....K, I, p 528
- Devonian fossils, invertebrates of Fortieth Parallel region...K, IV, pp 25-50, 246-251
- Devonian rocks of Colorado, San Juan region .....H, Ann 8, pp 211-214  
of Wyoming, Wind River Range .....H, Ann 11, p 73

- Diabase, analysis of, from Nevada, Diabase Hills.....K, II, p 812  
 analyses of, from Nevada, Wadsworth, vicinity of .....K, I, p 676  
 of Nevada, microscopic petrography of .....K, VI, pp 97-102
- Diamond Creek, New Mexico, cliff house and cave on .....W, VII, pp 370-371
- Diamond district, Nevada, notes on .....W, 1871, p 36
- Diamond Peak, Colorado, structure of .....UM, pp 204-206
- Diamond Range, Nevada, geology of .....K, II, pp 549-551
- Diastrophism, displacements in Colorado, northwestern .....H, Ann 10, pp 40-51  
 faulting in Yellowstone Park .....H, Ann 12, II, pp 5-9  
 faulting and folding in Colorado, Elk Range.....H, Ann 8, pp 68-71  
 faults and folds of Colorado Plateau .....W, III, pp 289-297  
 folds in Utah, Henry Mountains .....HM, pp 11-13  
 folding in Colorado, northwestern .....H, Ann 10, pp 48-51  
 uplifts in Colorado, northwestern .....H, Ann 10, pp 41-48
- Dictionary, Dakota-English.....Eth, VII  
 of Hidatsa language .....H, Misc 7, pp 125-239  
 of Klamath language.....Eth, II, pt 2, pp 13-701  
 (See, also, Ethnology and archaeology; Vocabulary.)
- Dikes of Colorado, Spanish Peaks region .....H, Ann 9, pp 132-136  
 of Colorado and Utah, White River district .....H, Ann 10, p 113
- Dinosaurian, carnivorous, from Dakota of Colorado..H, Bull, vol III, No 4, pp 805-806  
 (See, also, Vertebrates, fossil.)
- Diorite, analysis of, from Nevada, Agate Pass.....K, II, p 574  
 analysis of, from Nevada, Shoshone Range and Mount Davidson.....K, I, p 676  
 of Fortieth Parallel region, microscopic petrography of.....K, VI, pp 83-93
- Diptera collected in Colorado in 1873 .....H, Ann 7, pp 561-566  
 collected in Colorado and Arizona .....W, V, pp 803-807  
 descriptions of new genera and species of, from the West.....H, Bull,  
 vol III, No 2, pp 189-354  
 (See, also, Invertebrates.)
- Dirty Devil River, report on a trip to the mouth of .....ECR, pp 134-145
- Displacements in Colorado, northwestern.....H, Ann 10, pp 40-51
- Dolerite, analysis of, from Nevada, Shoshone Mesa .....K, II, p 617  
 of Colorado, occurrence and character of .....H, Ann 10, pp 245-246
- Dolores River, Colorado, geology near .....H, Ann 9, pp 53-58, 263-266
- Dorsey (J. O.), the Cegiha language .....Eth, VI
- Drift in Colorado, northwestern.....H, Ann 10, pp 55-57  
 in Colorado, Sangre de Cristo Range .....H, Ann 9, pp 136-138  
 in Nebraska .....H, Ann 8, pp 243-245
- Dry Mountains, Colorado, structure of .....UM, pp 206-208
- Drummond (W., jr.), land grants in aid of internal improvements ...AL, pp 165-182
- Dutton (C. E.), irrigable lands of the valley of the Sevier River ...AL, pp 128-149  
 petrographic notes on the volcanic rocks of the Yellowstone Park.....  
 H, Ann 12, II, pp 57-62  
 report on the geology of the high plateaus of Utah .....HP  
 report on the lithologic character of the Henry Mountain intrusives.....  
 HM, pp 61-65
- Eagle River, Colorado, geology along.....H, Ann 7, pp 70-78
- Eagle River Mountains, Colorado, topographic features of ....H, Ann 7, pp 383-384
- Eagle River Valley, Colorado, geology of.....H, Ann 8, pp 79-84, 106-107, 111, 113,  
 114-116, 118-120, 122, 124-125, 129-130, 135, 171-172
- Earth, infusorial. (See, Infusorial earth.)
- Earwigs, synopsis of North American .....H, Bull, vol II, No 3, pp 249-260  
 (See, also, Invertebrates.)



- East Fork Canyon, Utah, geology of..... HP, pp 243-248
- East Gallatin Mountains, Wyoming, geology of..... H, Ann 12, II, pp 19-27
- East Humboldt Range, Nevada, geology of..... K, II, pp 528-541
- Eaton (D. C.), descriptions of plants by..... K, v, pp 136-208, 394-397
- ferns of the Southwest..... W, VI, pp 299-340
- list of species of butterflies collected by Campbell Carrington and William  
B. Logan in 1871..... H, Ann 5, pp 466-467
- list of species of butterflies collected by W. H. Carpenter in Colorado in  
1873..... H, Ann 7, p 542
- on the Lepidoptera collected by Dr. Elliott Coues in Montana  
during 1874..... H, Bull, vol IV, No 2, pp 513-517
- Eels (M.), the Twana Indians of the Skokomish Reservation in Washington  
Territory..... H, Bull, vol III, No 1, pp 57-114
- Efflorescence, analysis of, from Lake Bonnevile..... K, I, p 502
- analysis of, from Lake Lahontan..... K, I, p 528
- from Nevada, Buffalo Peak, vicinity of..... K, II, p 731
- Hot Springs station..... K, II, p 773
- from New Mexico, Ojo de Tao..... W, III, p 628
- from Utah, Benada Peak, vicinity of..... K, II, p 423
- Egan Canyon district, Nevada, geology of, and mining in..... K, III, pp 445-449
- Egan Range, Nevada, geology of..... K, II, pp 486-489
- El Paso district, California, notes on..... W, 1871, p 52
- Elevation of Rocky Mountains near Missouri River, period of... H, Uncl 16, pp 9-13
- Elevations in Black Hills..... BH, pp 551-553
- in Colorado..... H, Ann 7, pp 667-669, 678-681; H,  
Ann 8, pp 429-433; H, Bull, vol I, ser 1, No 2, pp 75-77
- Sangre de Cristo Range..... H, Ann 9, pp 299, 300
- in Dakota, Minnesota, and Nebraska..... H, Ann 6, pp 286-297
- in Idaho, Wyoming, and Utah..... H, Ann 6, pp 799-802
- in Minnesota, Dakota, and Nebraska..... H, Ann 6, pp 286-297
- in Yellowstone Park..... H, Ann 12, II, pp 457-463
- lists of..... H, Bull, vol v,  
No 3, pp 441-470; W, 1878, pp 68-78; W, Uncl 16, pp 121-261
- methods of determining..... H, Ann 10, pp 299-303
- of certain datum points on the Great Lakes and rivers and in the Rocky  
Mountains..... H, Ann 7, pp 629-659
- west of Mississippi River..... H, Misc 1
- of one hundredth meridian..... W, II, pp 556-566
- Elk Mountain region, Wyoming, geology of..... LOR, 1868,  
pp 244-245; H, Ann 2, pp 91-92; K, II, pp 148-152
- Elk Mountains, Colorado, eruptive masses in..... H, Bull, vol III, No 3, pp 555-557
- geology of..... H, Ann 7, pp 58-69, 250-261; H, Ann 8, pp 54-71
- mines in..... H, Ann 7, pp 304-305
- Elkhead Mountains, Colorado, geology of..... K, II, pp 167-180
- Ellen, Mount, Utah, geology of..... HM, pp 38-49
- Elliott (H. W.), profiles, sections, and other illustrations..... H, Uncl 3
- Elliott (R. S.), experiments in cultivation on the plains along the line of the  
Kansas Pacific Railway..... H, Ann 5, pp 274-279
- report on the industrial resources of western Kansas and eastern Colo-  
rado..... H, Ann 4, pp 442-458
- Ellsworth, Mount, Utah, geology of..... HM, pp 22-27
- Ely district, Nevada, notes on..... W, 1871, pp 42-43
- Emerton (J. H.), descriptions to two new spiders from Colorado..... H, Bull,  
vol III, No 2, pp 528-529

- Empire, Colorado, mines at ..... H, Ann 3, p 114; H, Ann 1-3, p 112  
 Emmons (S. F.), geology of Egan Canyon district ..... K, III, pp 445-449  
     geology of Toyabe Range ..... K, III, pp 320-348  
 Emmons (S. F.), and Hague (A.), descriptive geology of Fortieth Parallel  
     region ..... K, II  
 Endlich (F. M.), mineralogical report of ..... H, Ann 10, pp 133-159  
     on some striking products of erosion in Colorado ..... H, Bull,  
         vol IV, No 4, pp 831-864  
     on the erupted rocks of Colorado ..... H, Ann 10, pp 199-272  
     report on geology of Sweetwater district, Wyoming ..... H, Ann 11, pp 3-158  
     report on geology of the White River district ..... H, Ann 10, pp 61-131  
     report on mining districts of Colorado ..... H, Ann 7, pp 275-361  
     report on southeastern district of Colorado ..... H, Ann 9, pp 105-235  
     report on the mines and geology of the San Juan country ..... H, Bull, vol I,  
         ser 2, No 3, pp 151-164  
     work by, report on, 1874 ..... H, Ann 8, pp 181-240  
 Engelmann (G.), Cactaceæ of Great Basin ..... K, V, pp 115-120  
     descriptions of plants collected in Nevada, Utah, Arizona, New Mexico,  
         and Colorado ..... W, VI, pp 127-132,  
         187-197, 206-207, 242-264, 267-268, 272-274, 368, 374-375  
 England, primitive lapidarian sculptures in ..... Eth, V, pp 15-17  
 Entomological Commission, report of ..... H, Uncl 14  
 Entomostraca, new, from Colorado ..... H, Bull, vol III, No 1, pp 151-155  
     (See, also, Invertebrates.)  
 Eocene fossils, plants, American, general characters of ..... H, Ann 6, pp 343-350  
     (See, also, Plants, fossils.)  
 Eocene vertebrata of Colorado ..... H, Ann 7, pp 456-461  
     of New Mexico ..... W, IV, pt 2,  
         pp 37-282; W, 1874, pp 115-130; W, 1875, pp 93-96  
     systematic catalogue of ..... W, Uncl 9  
     of Wyoming ..... H, Ann 6, pp 543-649  
     Wind River ..... H, Bull, vol VI, No 1, pp 183-202  
     (See, also, Vertebrates, fossil.)  
 Eocene plateau of New Mexico, geology of ..... W, IV,  
         pt II, pp 13-20; W, 1875, pp 88-93  
 Eocene rocks of Fortieth Parallel region ..... K, I, pp 359-407  
     (See, also, Tertiary rocks.)  
 Eocene and Pliocene lacustrine formations of New Mexico, notes on, including  
     descriptions of certain new species of vertebrates. . W, 1874, pp 115-130  
 Epidote, thin section of, from diorite of Nevada, Winnemucca Peak ..... K, VI, pl 3  
 Eremophila alpestris, osteology of ..... H, Ann 12,  
         I, pp 627-652; H, Bull, vol VI, No 1, pp 119-147  
     (See, also, Vertebrates.)  
 Erisichte, discussion of genus ..... H, Bull, vol III, No 4, pp 821-823  
     (See, also, Vertebrates.)  
 Erosion in Colorado, central ..... W, III, pp 471-477  
     in Colorado, eastern, peculiar forms of. . . H, Bull, vol I, ser 2, No 3, pp 210-211  
         Elk Mountains ..... H, Ann 8, pp 57-58  
     in Grand Canyon ..... W, III, pp 67-85  
     in Uinta Mountains ..... U.M., pp 181-198  
     methods of ..... E.C.R., pp 202-208  
     principles of ..... H.M., pp 99-114  
     products of ..... H, Bull, vol IV, No 4, pp 831-864  
 Eruptive mountains in Colorado, peculiar type of ..... H, Bull, vol III,  
         No 3, pp 551-564

- Eruptive rocks of Arizona and New Mexico ..... W, III, pp 638-651  
of California, southeastern ..... W, 1876, pp 179-183  
(See, also, Igneous rocks; Volcanic rocks.)
- Escalante Hills, Colorado, geology of ..... K, II, pp 287-288
- Ethnological examinations in California, Santa Barbara, vicinity of ..... W, 1876,  
pp 312-321  
in California, southern ..... W, VII, pp 1-314
- Ethnology of California, southern, and adjacent regions, notes on ..... W, 1876,  
pp 321-327
- Ethnology and archæology; aboriginal inhabitants of southern California ..... W, VII,  
pp 1-31  
aborigines, houses and house-life of American ..... Eth, IV  
Alaska, natives of, notes on ..... Eth, I, pp 111-116  
amulets, cranial, and prehistoric trephining ..... Eth, V  
art, ancient, in Colorado, northwestern ..... H, Bull, vol II, No 1, pp 65-66  
in Wyoming, Bridger Basin ..... H, Ann 6, pp 651-653  
basket work, textile fabrics, etc., of Indians of southern California ..... W, VII,  
pp 239-250  
bead ornaments used by ancient tribes of Arizona ..... H, Bull,  
vol II, No 1, pp 67-69  
beads of Indians of southern California ..... W, VII, pp 263-271  
bone, implements and weapons made of wood and ..... W, VII, pp 222-233  
musical instruments made of, from southern California ..... W, VII, pp 234-238  
cachina, a dance at the pueblo of Zuñi, description of ..... W, VII, pp 332-336  
calendar of Dakota Nation ..... H, Bull, vol III, No 1, pp 3-25  
Çegiha language, myths, stories, etc., in ..... Eth, VI  
cliff dwelling in Arizona, Chelly Canyon ..... H, Ann 10, pp 420-425  
crania from Santa Barbara Islands, California, notes on ..... W, VII, pp 277-292  
crania and skeletons collected in 1872-1874, notes on ..... W, VII, pp 391-397  
cranial amulets and prehistoric trephining ..... Eth, V  
cranium from New Mexico, Chaco Canyon, report on ..... H, Ann 10, pp 453-457  
cup-shaped and lapidarian sculpture in the Old World and America ..... Eth, V  
Dakota grammar, texts, and ethnography ..... Eth, IX  
Dakota language, dictionary of ..... Eth, VII  
Dakota Nation, calendar of ..... H, Bull, vol III, No 1, pp 3-25  
dance at the pueblo of Zuñi ..... W, VII, pp 332-336  
dictionary of Dakota language ..... Eth, VII  
of Hidatsa language ..... H, Misc 7, pp 125-239  
of Indian languages, comparative ..... Eth, I,  
pp 121-153, 249-285; W, VI, pp 424-485  
of Klamath language ..... Eth, II, pt 2, pp 13-701
- graves, pestles and mortars from ..... W, VII, pp 70-92  
steatite cooking pots, plates, and food vessels from ..... W, VII, pp 93-116  
stone, objects made of, from ..... W, VII, pp 190-217  
stone pipes from ..... W, VII, pp 125-134  
stones, perforated, from ..... W, VII, pp 135-189
- graves and kjökkenmöddings of Oregon, coast of ..... H, Bull, vol III, No 1, pp 27-35  
of Santa Barbara Islands and adjacent mainland ..... H, Bull,  
vol III, No 1, pp 37-56
- Hidatsa Indians, ethnography and philology of ..... H, Misc 7
- houses of mound builders ..... Eth, IV, pp 198-221
- houses and house life of American aborigines ..... Eth, IV
- human remains of ruins of Colorado, southwestern, and New Mexico, north-  
ern ..... H, Bull, vol II, No 1, pp 47-63

- Ethnology and archæology; of ruins of New Mexico, Eocene plateau of north-western ..... W, 1875, pp 166-173
- human remains of ruins of New Mexico, northwestern.... W, vii, pp 351-361
- implements, iron, of Indians of southern California..... W, vii, pp 272-276
- implements, stone, of southern California..... W, vii, pp 49-69
- implements and weapons made of bone and wood, from southern California..... W, vii, pp 222-233
- implements, pottery, etc., obtained in New Mexico and Arizona..... W, vii, pp 374-390
- Indian languages, comparative vocabulary of..... Eth, i, pp 121-153, 249-285; W, vii, pp 424-485
- of southern California, analytical report on idioms of... W, 1876, pp 330-343
- Indian tribes of Alaska ..... Eth, i, pp 1-106
- of California ..... Eth, iii
- of northwest ..... Eth, i, pp 1-106
- of Washington, western, and Oregon, northwestern..... Eth, i, pp 157-241
- Indians, houses and house life of ..... Eth, iv
- of Arizona and Nevada..... W, 1871, pp 27-29, 74-76
- of Arizona, California, and Nevada..... H, Ann 10, pp 461-478
- of California, southern, basket work, textile fabrics, etc., of ..... W, vii, pp 239-250
- beads of ..... W, vii, pp 263-271
- ornaments of..... W, vii, pp 251-262
- of Nevada, southern and southeastern..... W, 1869, pp 35-37
- of Nevada and Arizona..... W, 1871, pp 27-29, 74-76
- of Nevada, California, and Arizona, observations on... H, Ann 10, pp 461-478
- of Washington, Skokomish Reservation, customs, language, etc., of... H, Bull, vol iii, No 1, pp 57-114
- of western States and Territories ..... W, i, pp 211-222
- photographs of, catalogue of..... H, Misc 5 (1st ed), pp 67-83; H, Misc 9
- Innuít, origin of..... Eth, i, pp 93-106
- terms of relationship used by..... Eth, i, pp 117-119
- iron implements of Indians of southern California..... W, vii, pp 272-276
- kjökkenmöddings and graves of Oregon, coast of..... H, Bull, vol iii, No 1, pp 27-35
- of Santa Barbara islands and the adjacent mainland..... H, Bull, vol iii, No 1, pp 37-56
- Klamath Indians, ethnographic sketch, grammar, texts, dictionary of language, bibliography, etc., of..... Eth, ii
- lapidarian sculptures in the Old World and America, observations on cup-shaped and ..... Eth, v
- language, Dakota, dictionary of..... Eth, vii
- language, Nez Percés, grammar of, notes on.... H, Bull, vol ii, No 3, pp 271-277
- languages, Indian, comparative vocabulary of ..... Eth, i, pp 121-153, 249-285; W, vii, pp 424-485
- languages, pueblo, of New Mexico..... W, 1875, pp 180-187
- Mayas, graphic system and ancient records of..... Eth, v, pp xvii-xxxvii
- mortars and pestles from graves in southern California ..... W, vii, pp 70-92
- mound builders, houses of ..... Eth, iv, pp 198-221
- mounds of Dakota..... H, Ann 6, pp 655-658
- musical instruments made of bone, from southern California..... W, viii, pp 234-238
- Nez Percés language, grammar of, notes on .... H, Bull, vol ii, No 3, pp 271-277
- ornaments of Indians of southern California ..... W, vii, pp 251-262

Ethnology and archaeology; ornaments, bead, employed by ancient tribes of

- Utah and Arizona ..... H, Bull, vol II, No 1, pp 67-69
- pestles and mortars from graves in southern California ..... W, VII, pp 70-92
- pipes, stone, from graves of southern California ..... W, VII, pp 125-134
- pottery of Colorado, San Juan Valley, ancient tribes .... H, Ann 10, pp 403-408
- of Colorado, southwestern ..... H, Bull, vol III, No 1, pp 21-24
- pottery, implements, etc., obtained in New Mexico and Arizona ..... W, VII, pp 374-390
- pueblo languages of New Mexico, report on ..... W, 1875, pp 180-187
- pueblo at Acoma, New Mexico ..... W, VII, pp 325-326
- pueblos and their inhabitants, notes on ..... W, VII, pp 319-324
- ruins, human remains found among, in southwestern Colorado and north-  
ern New Mexico ..... H, Bull, vol II, No 1, pp 47-63
- in Arizona, Chelly Canyon ..... W, VII, pp 372-373; H, Ann 10, pp 420-425
- San Juan River region ..... H, Bull, vol II, No 1, pp 25-45
- in Colorado, southwestern ..... H, Ann 8, pp 367-381;  
H, Ann 10, pp 383-452; H, Bull, vol I, ser 2,  
No 1, pp 17-30; H, Bull, vol II, No 1, pp 3-24
- in New Mexico ..... W, VII, pp 337-345; W, 1875, pp 174-178
- Chaco Canyon ..... H, Ann 10, pp 431-449; W, VII, pp 366-369
- Las Animas River ..... W, VII, pp 347-350
- Las Animas Valley and other places ..... W, 1875, pp 178-180
- in Utah and Arizona, San Juan River region ..... H, Bull,  
vol II, No 1, pp 25-45
- sculpture, cup-shaped and lapidarian, in the Old World and America .... Eth, v
- shell heaps of Aleutian Islands, Alaska ..... Eth, I, pp 41-91
- skeletons and crania collected in 1872-1874, notes on ..... W, VII, pp 391-397
- skull from Chaco Canyon, New Mexico ..... H, Ann 10, pp 453-457
- skulls from Santa Barbara Islands ..... W, VII, pp 277-292
- skulls and skeletons collected in 1872-74, notes on ..... W, VII, pp 391-397
- soapstone pots, method of manufacture of ..... W, VII, pp 117-121
- steatite cooking pots, plates, and food vessels from graves of southern  
California ..... W, VII, pp 93-116
- stone, miscellaneous objects made of, from graves of southern California. W, VII,  
pp 190-217
- stone implements of southern California ..... W, VII, pp 49-69
- stone pipes from graves of southern California ..... W, VII, pp 125-134
- stone weapons, methods of making ..... H, Bull, vol III, No 3, pp 547-549
- stones, perforated, from graves of southern California ..... W, VII, pp 135-189
- trephining, prehistoric and cranial amulets ..... Eth, v
- Troano manuscript, study of ..... Eth, v
- Twana Indians, customs, language, etc., of ..... H, Bull, vol III, No 1, pp 57-114
- utensils and language of modern Utes ..... H, Bull, vol II, No 1, pp 71-76
- weapons, stone, methods of making ..... H, Bull, vol III, No 3, pp 547-549
- wood, articles and utensils of, from graves of southern California ..... W, VII,  
pp 122-124
- implements and weapons made of bone and ..... W, VII, pp 222-233
- Euphotide of Colorado, Mount Ouray ..... H, Ann 10, p 209
- Eureka district, Nevada, notes on ..... W, 1871, p 37
- Europe, springs, thermal, of ..... H, Ann 12, II, pp 332-337
- vertebrata, extinct, of North America and, relations of horizons of ..... H, Bull,  
vol V, No 1, pp 33-54
- Evaporation in Colorado, Los Pinos Agency ..... W, 1878, p 106
- Evarts, Mount, Wyoming, geology of ..... H, Ann 12, II, pp 9-15

- Explorations and surveys in western North America, 1500-1880, account of. . . W, i, pp 481-764  
     under Lieutenant Wheeler, sketch of. . . . . W, i, pp 21-146
- Fairplay, Colorado, meteorologic observations at. . . . . H, Misc 6, pp 35-39
- Falconidae, natural arrangement of, outlines of. . . H, Bull, vol i, ser 2, No 4, pp 225-231  
     studies of American. . . . . H, Bull, vol ii, No 2, pp 91-182  
     (See, also, Vertebrates.)
- Fall Creek region, Idaho, geology of. . . . . H, Ann 11, pp 364-371
- Faulting in Yellowstone Park. . . . . H, Ann 12, ii, pp 5-9
- Faulting and folding in Colorado, Elk Range. . . . . H, Ann 8, pp 68-71  
     in southern Colorado and northern New Mexico. . . . . W, iii, Supp, pp 39-65
- Faults in Utah, high plateaus. . . . . HP, pp 25-47
- Faults and folds of Colorado Plateau. . . . . W, iii, pp 289-297
- Feather Creek, Wyoming, geology near. . . . . H, Ann 11, pp 530-531
- Feldspar, analysis of, from Bavaria. . . . . W, 1875, p 111  
     analysis of, from Colorado, Pikes Peak. . . . . W, 1875, p 111  
     from Nevada, Pine Nut Canyon. . . . . K, ii, p 702  
     thin section of, from Nevada, Havallah Range. . . . . K, vi, pl 3
- Felsite-porphry of Fortieth Parallel region, microscopic petrography of. . . . K, vi, pp 71-80
- Ferns of the Southwest. . . . . W, vi, pp 299-340  
     (See, also, Plants.)
- Finches, gray-crowned purple, monograph of. . . H, Bull, vol i, ser 2, No 2, pp 51-82  
     (See, also, Vertebrates.)
- Firehole River, Wyoming, geyser basins of. . . . . H, Ann 6, pp 141-158
- Fish Creek Mountains, Nevada, geology of. . . . . K, ii, pp 660-666  
     granite of. . . . . K, i, p 80
- Fish Lake Plateau, Utah, geology of. . . . . HP, pp 260-267
- Fishes of California and Nevada, report on. . . . . W, 1878, pp 187-205  
     of Dakota and Montana, report on. . . . . H, Bull, vol iv, No 4, pp 777-779  
     of Nevada, Utah, California, Colorado, New Mexico, and Arizona. . . . . W, v, pp 635-703  
     of North America, fresh waters of, catalogue of. . . . . H, Bull, vol iv, No 2, pp 407-442  
     of Texas, Rio Grande at Brownsville, notes on a collection from. . . . . H, Bull, vol iv, No 2, pp 397-406; H, Bull, vol iv, No 3, pp 663-667  
     (See, also, Fishes and reptiles; Vertebrates.)
- Fishes and reptiles collected in Idaho, Wyoming, Montana, and Utah. . . . H, Ann 5, pp 467-476  
     report on. . . . . H, Ann 4, pp 432-442  
     (See, also, Vertebrates.)
- Fishes, fossil, of Carboniferous of Kansas, notice of some. . . . . H, Mon i, pp 311-314  
     of Coal Measures, Upper, of Nebraska. . . . . H, Uncl i, pp 239-245  
     of Cretaceous and Tertiary deposits west of Mississippi River. . . . . H, Bull, vol iv, No 1, pp 67-77  
     of Green River shale of Wyoming. . . . . H, Mon i, pp 194-197  
     of Tertiary shales of Green River, Wyoming. . . . . H, Ann 4, pp 425-431  
     of South Park. . . . . H, Bull, vol i, ser 2, No 1, pp 3-5  
     of Tertiaries, fresh-water, of the Rocky Mountains. . . . . H, Bull, vol i, ser 1, No 2, pp 49-51  
     (See, also, Vertebrates, fossil.)
- Fishes and reptiles, fossil, of Cretaceous of Interior region. . . . . H, Mon i, pp 266-310  
     of the Cretaceous rocks of Kansas. . . . . H, Ann 4, pp 385-425  
     (See, also, Vertebrates, fossil.)

- Fissure of Comstock lode, Nevada.....K, III, pp 64-68
- Flaming Gorge group, exposures of.....UM, p 51
- Fletcher (R.), on prehistoric trephining and cranial amulets.....Eth, v
- Flora. (See Plants.)
- Flora, fossil. (See Plants, fossil.)
- Florissant, Colorado, Tertiary lake basin at.....H, Ann 12,  
I, pp 271-293; H, Bull, vol VI, No 2, pp 279-300
- Folding in Colorado, northwestern.....H, Ann 10, pp 48-51
- Folding and faulting in southern Colorado and northern New Mexico.....W, III,  
Supp, pp 39-65
- Folds in Arizona and New Mexico, Plateau region.....W, III, pp 556-567
- Folds and faults of Colorado Plateau.....W, III, pp 289-297
- Folds in Utah, Henry Mountains.....HM, pp 11-13
- Fontenelle hogbacks, Wyoming, geology of.....H, Ann 11, pp 537-538
- Food of birds of Nebraska, notes on.....H, Uncl 14, App, pp 13-62
- Fort Bayard, New Mexico, astronomical work at.....W, 1879, pp 81-113
- Fort Benton group of Black Hills.....BH, p 174  
of Colorado, south-central, and New Mexico, north-central.....W, III,  
Supp, pp 96-97
- Spanish Peaks region.....W, 1879, p 277
- of Missouri country, upper.....H, Mon IX, pp xxviii-xxx
- of Nebraska.....LOR, 1867, p 171; H, Ann 1, p 53
- of New Mexico, north-central, and Colorado, south-central..W, III, Supp, pp 96-97
- Fort Bliss, Texas, astronomical work at.....W, 1879, pp 47-81
- Fort Bridger, Wyoming, geology between South Pass and.....H, Ann 4, pp 35-41
- Fort Ellis, Montana, geology between Fort Hall, Idaho, and....H, Ann 5, pp 27-44  
geology between Gardiner River and.....H, Ann 6, pp 108-125
- Fort Fetterman, Wyoming, geology between Cheyenne and....H, Ann 4, pp 11-24  
geology between South Pass and.....H, Ann 4, pp 24-35
- Fort Garland, Colorado, birds collected in vicinity of.....W, Uncl 4, pp 69-95
- Fort Hall, Idaho, geology between Fort Ellis, Montana, and....H, Ann 5, pp 27-44  
geology between Ogden, Utah, and..H, Ann 5, pp 13-26; H, Ann 6, pp 197-207  
meteorological observations at.....H, Misc 2, pp 4-46
- Fort Hays division of Kansas..H, Ann 9, pp 289-290; H, Bull, vol II, No 3, pp 218-221
- Fort Pierre group of Black Hills.....BH, pp 172-173  
of Colorado, south-central, and New Mexico, north-central.....W, III,  
Supp, pp 99-101
- Spanish Peaks region.....W, 1879, p 277
- of Missouri country, upper.....H, Mon IX, pp xxxiii-xxxv
- fossil vertebrates of.....H, Bull, vol III, No 3, pp 586-588
- of Nebraska.....LOR, 1867, p 172; H, Ann 1, p 54
- of New Mexico, north-central, and Colorado, south-central.....W, III,  
Supp, pp 99-101
- Fort Sisseton, Dakota, birds of, notes on.....H, Bull, vol V, No 1, pp 71-103  
mammals of.....H, Bull, vol IV, No 1, pp 201-218
- Fort Union, New Mexico, astronomical determinations at.....W, II, pp 313-335  
geology between Colorado City and.....H, Ann 3, pp 47-58  
in vicinity of.....H, Ann 3, pp 58-61; H, Ann 1-3, pp 158-161
- Fort Union group, extent and age of...H, Ann 7, pp 432-435; H, Ann 8, pp 141-143  
fauna of.....H, Mon II, pp 25-30  
invertebrate fossils of, list of.....H, Bull, vol III, No 3, p 612  
of Missouri region, upper.....H, Mon IX, pp lv-lxi  
vertebrata of.....H, Ann 7, pp 444-456  
(See, also, Lignite formations.)

- Forests in the Territories.....H, Ann 5, pp 218-227
- Forests and timber in western Territories.....W, I, pp 179-181
- Forest, fossil, of the volcanic Tertiary formations of the Yellowstone National  
Park.....H, Bull, vol v, No 1, pp 125-132  
(See, also, Plants, fossil.)
- Fortieth Parallel region, birds of.....K, IV, pp 303-643
- botany of.....K, v
- geodetical and geographical methods used in survey of.....K, I, pp 763-769
- invertebrates, fossil, of.....K, IV, pp 1-302
- lakes, glacial, of.....K, I, pp 488-529
- mining districts and mining industry in.....K, III
- microscopical petrography of.....K, VI
- orography of.....K, I, pp 727-761
- Quaternary rocks of.....K, I, pp 459-529
- volcanic rocks of.....K, I, pp 545-725
- Fortieth Parallel survey, area explored by.....K, I, pp 1-14
- Fossil forest. (See Forest, fossil.)
- Fossils. (See Invertebrates, fossil; Vertebrates, fossil; Plants, fossil.)
- Fountain Head Hills, Nevada, geology of.....K, II, pp 520-523
- Fox Hills fossils, geographic distribution of, table showing.....H, Ann 11, pp 252-253
- of Colorado, Bear Creek Valley and Greeley, list of.....H, Ann 11, pp 265-266
- east of Rocky Mountains.....H, Ann 11, pp 179-190
- Fox Hills group of Black Hills.....BH, pp 171-172
- of Colorado, northwestern.....H, Ann 10, pp 31-32
- San Juan drainage basin.....H, Ann 9, pp 187-189
- White River district.....H, Ann 10, pp 76-77, 109
- of Fortieth Parallel area.....K, I, pp 320-330
- of Missouri country, upper.....H, Mon IX, pp xxxv-xxxviii
- of Utah, White River district.....H, Ann 10, pp 76-77, 109
- of Wyoming, Rawlins Peak, vicinity of.....H, Ann 11, pp 123-124
- Sweetwater Valley.....H, Ann 11, p 109
- Wind River Range, vicinity of.....H, Ann 11, pp 85-87
- France, primitive lapidarian sculptures in.....Eth, v, pp 18-20
- Franklin Buttes, Nevada, geology of.....K, II, pp 491-493
- granite of.....K, I, p 62
- Frazer (P.), mines and minerals of Colorado.....H, Ann 3,  
pp 103-130; H, Ann 1-3, pp 201-228
- Frazier Basin, Colorado, geology of.....H, Ann 7, pp 161-162
- French Creek district, South Dakota, mineral resources of.....BH, pp 226-238
- Fresno, Cal., astronomical work at.....W, 1879, pp 41-47
- Front Range. (See Colorado Range.)
- Frost (C. C.) Hepaticæ of Great Basin.....K, v, p 411
- Fur-bearing animals; a monograph of North American Mustelidæ.....H, Miscel, 8  
(See, also, Vertebrates.)
- Furuhelm (J.), notes on the natives of Alaska.....Eth, I, pp 111-116
- Gabbro, analysis of, from Wyoming, East Iron Mountain.....K, I, p 110
- analysis of, from Wyoming, Iron Mountain.....K, VI, p 109
- from Wyoming, Laramie Hills.....K, II, p 14
- of Wyoming, Iron Mountain, microscopic petrography of.....K, VI, pp 107-109
- Galisteo Creek region, New Mexico, geology of.....W, III, Supp, pp 328-346
- Galisteo group of New Mexico, Galisteo Creek.....W, III, Supp, pp 159-162
- Gallatin River, Montana, geology near.....H, Ann 5, pp 44-49
- Gallatin Valley and canyon, Montana, geology of.....H, Ann 6, pp 26-28, 76-81
- Gallinas Creek, New Mexico, geology near.....H, Ann 3, pp 61-64;  
H, Ann 1-3, pp 161-164



- Gallfly, pitch pine, description of.....H, Ann 10, pp 527-528  
(See, also, Invertebrates.)
- Galls collected in Colorado, notes on.....H, Ann 7, p 567
- Gannett (H.), additional lists of elevations.....H, Bull, vol v, No 3, pp 441-470  
geographical field work of the Yellowstone Park division.....H, Ann 12, ii,  
pp 455-490
- lists of elevations in that portion of the United States west of the Missis-  
sippi River.....H, Miscel 1
- meteorological observations during the year 1872, in Utah, Idaho, and  
Montana.....H, Miscel 2
- report on astronomy and hypsometry for 1872.....H, Ann 6, pp 796-807
- notes in relation to contour map of the United States.....H, Bull, vol ii, No 3,  
pp 223-226
- report on arable and pasture lands of Colorado.....H, Ann 10, pp 311-357
- topographic report on Grand River district.....H, Ann 9, pp 335-350
- work in charge of, report on.....H, Ann 7, pp 670-681;  
H, Ann 8, pp 413-433; H, Ann 11, pp 675-710
- Gardiners River, Wyoming, geology between Fort Ellis, Montana, and...H, Ann 6,  
pp 108-125
- geology of upper.....H, Ann 12, ii, pp 27-32
- hot springs near.....H, Ann 5, pp 64-75
- Gardner (J. T.), elevations of certain datum points on the Great Lakes and  
rivers and in the Rocky Mountains.....H, Ann 7, pp 629-659
- geodetical and geographical methods used on the Geological Explorations  
of the Fortieth Parallel.....K, i, pp 763-769
- notes on the Rocky Mountain ranges in Colorado Territory.....H, Bull, vol i,  
ser 1, No 2, pp 72-77
- sketch of methods of survey in the geographical department.....H, Ann 7,  
pp 627-628
- Garnets, analyses of, from New Mexico, Nacimientto Desert and from Bohe-  
mia.....W, 1875, p 105
- Gatschet (A. S.), analytical report on 11 idioms spoken in southern California,  
Nevada, and on the lower Colorado River, their phonetic ele-  
ments, grammatical structure, and mutual affinities.....W, 1876,  
pp 330-343
- classification in seven linguistic stocks of western Indian languages contained  
in 40 vocabularies.....W, vii, pp 403-485
- Klamath Indians of southwestern Oregon.....Eth, ii
- report on the pueblo languages of New Mexico and of the Moquis in Ari-  
zona, their affinity to each other, and to the languages of the  
other Indian tribes.....W, 1875, pp 180-187
- Gaylussite, analysis of, from Nevada, Soda Lakes.....K, ii, p 749
- Gentile Valley, Idaho, geology of.....H, Ann 11, pp 600-602
- Geodetical and geographical methods used in survey of Fortieth Parallel  
region.....K, i, pp 763-769
- Geographic positions in Black Hills.....BH, pp 551-553
- lists of.....W, 1876, pp 6-35;  
W, 1877, pp 1214-1217; W, 1878, pp 6-14; W, Uncl 16, pp 10-12
- Geographical and geodetical methods used in survey of Fortieth Parallel  
region.....K, i, pp 763-769
- Geometrid moths or Phalenidæ of the United States, monograph on.....H, Mon x  
(See, also, Invertebrates.)
- Geomyidæ, cranial and dental characters of.....H, Bull, vol i, ser 2, No 2, pp 83-90  
(See, also, Vertebrates.)

- Geomys, abstract of study of Thomomys and..... ECR, pp 217-279  
(See, also, Vertebrates.)
- Geomys tuza, notes on..... ECR, pp 282-285  
(See, also, Vertebrates.)
- Georgetown, Colorado, astronomical determinations at..... W, II, pp 211-238  
mines at..... H, Ann 3, pp 111-114
- Georgetown district, Colorado, mines of..... H, Ann 7, pp 293-300  
silver mining in..... K, III, pp 589-605
- Germany, primitive lapidarian sculptures in..... Eth, v, pp 22-25
- Geyserite, analysis of, from Iceland..... H, Ann 5, p 187; H, Ann 6, p 158  
analysis of, from New Zealand..... H, Ann 5, p 188; H, Ann 6, p 158  
from Yellowstone Park..... H, Ann 6, pp 145, 146, 153, 154, 156, 157, 158  
from various localities..... H, Ann 12, II, pp 411-413
- Geysers, definition of, theories concerning, influences modifying, etc.... H, Ann 12,  
II, pp 416-454  
of Yellowstone Park..... H, Ann 5, pp 104-126,  
182-188; H, Ann 6, pp 138-140, 144-148, 234-242, 244-247
- Geysers and thermal springs of various parts of the world... H, Ann 12, II, pp 304-353
- Gibbs (G.), dictionary of the Niskwalli..... Eth, I, pp 285-361  
tribes of western Washington and northwestern Oregon..... Eth, I, pp 157-241
- Gibbs (M.), annotated list of the birds of Michigan..... H, Bull,  
vol v, No 3, pp 481-497
- Gila River, Arizona, geology between St. George, Utah, and..... W, III, pp 189-225
- Gila Valley, Arizona, climate of..... W, III, pp 598-601  
geology between Camp Apache and..... W, III, pp 218-225
- Gilbert (G. K.), geology of the Henry Mountains, Utah..... HM  
irrigable lands of Salt Lake drainage system..... AL, pp 113-127  
report on the geology of portions of Nevada, Utah, California, and Arizona,  
examined in 1871 and 1872..... W, III, pp 17-187  
report on the geology of portions of New Mexico and Arizona... W, III, pp 503-567  
water supply in Utah..... AL, pp 57-80  
work in charge of, report on..... W, 1871, pp 92-96; W, 1872, pp 48-52
- Gill (T.), synopsis of insectivorous mammals... H, Bull, vol I, ser 2, No 2, pp 91-120
- Gill (T.) and Coues (E.), material for a bibliography of North American mammals,  
H, Mon XI, pp 951-1081
- Gilpin County, Colorado, gold mining in..... K, III, pp 493-588
- Gissler (C. F.), miscellaneous notes on the reproductive habits of Bran-  
chiopodidæ..... H, Ann 12, I, pp 420-452
- Glacial action in Colorado, central..... W, III, pp 426-453
- Glacial epoch in Basin Range..... W, III, pp 86-104
- Glacial phenomena of Plateau region..... W, III, pp 300-301
- Glacial lakes. (See Lakes, Glacial.)
- Glaciation in Colorado, Arkansas Valley... H, Ann 7, pp 51-57; H, Ann 8, pp 47-53  
in New Mexico, Culebra and Taos ranges..... W, III, Supp, pp 177-178  
in Yellowstone Park..... H, Ann 12, II, pp 52-57
- Glaciers, ancient, of Colorado, southern..... H, Ann 9, pp 216-226  
of Fortieth Parallel region..... K, I, pp 467-488
- Glauconite, analysis of, from Black Hills, Canada, and New Jersey..... BH, p 96
- Gneiss, analysis of, from Colorado, Park Range..... K, I, p 110  
analysis of, from Utah, Ogden Canyon..... K, II, p 398  
from Utah, Ogden Point..... K, VI, p 25  
Wasatch Mountains..... K, I, p 110  
from Wyoming, Elk Mountain..... K, I, p 110
- Gold in Black Hills..... BH, pp 231-238, 241-251

- Gold in New Mexico, Placer and Cimarron mountains . . . . . W, III, Supp, pp 398-402  
 in Wyoming, Sweetwater district. . . . . H, Ann 11, pp 142-148
- Gold mining in Colorado, Gilpin County . . . . . K, III, pp 493-588
- Gold Mountain district, Nevada, notes on . . . . . W, 1871, p 47
- Gold ores, treatment of, in Colorado . . . . . K, III, pp 547-588
- Gold and silver mines of Colorado . . . . . H, Ann 3, pp 87-89; H, Ann 1-3, pp 187-189
- Gold Hill mining region, Colorado, geology of . . . . . H, Ann 7, pp 685-687
- Golden, Colorado, geology near . . . . . H, Ann 3, pp 33-35; H, Ann 1-3, pp 133-135
- Goniatite, fossil, from Kansas, eastern, notice of . . . . . H, Bull, vol 1, ser 2, No 6, p 445  
 (See, also, Invertebrates, fossil.)
- Goode (G. B.), notes on the salamander (*Geomys tuza*) of Florida . . . . . ECR, pp 282-285
- Goose Creek Hills, Nevada, geology of . . . . . K, II, pp 515-517  
 porphyry in . . . . . K, I, pp 55-56
- Gosiute Lake (Tertiary), extent of . . . . . K, I, pp 446-447
- Gosiute Range, Nevada, geology of . . . . . K, II, pp 502-505  
 granite of . . . . . K, I, p 57
- Grand Canyon. (See Colorado River.)
- Grand Canyon group, exposures of . . . . . UM, p 61
- Grand River district, Colorado-Utah, geology of . . . . . H, Ann 9, pp 31-101;  
 H, Ann 10, pp 163-185  
 topographical report on . . . . . H, Ann 9, pp 337-350
- Grand River drainage basin, Colorado, cultivable areas in . . . . . H, Ann 10, pp 332-337
- Grand River Valley, Colorado, geology of . . . . . H, Ann 7, pp 158-170, 177-178; H, Ann 8,  
 pp 85-93, 107, 111, 113, 116, 120, 123, 125-126, 130, 135, 172-174
- Granite, analysis of, from California, Yosemite Valley . . . . . K, I, p 110  
 analysis of, from Colorado, Longs Peak . . . . . K, I, p 110; K, II, p 23  
 from Nevada, Agate Pass region . . . . . K, II, p 577  
 Cortez Mountains . . . . . K, I, p 110  
 Egans Canyon . . . . . K, I, p 110  
 Egan Range . . . . . K, II, p 489  
 Granite Creek station . . . . . K, II, p 798  
 west of . . . . . K, I, p 110  
 Granite Peak . . . . . K, I, p 110; K, II, p 779  
 Nannies Peak . . . . . K, I, p 110; K, II, p 603  
 Shoshone Range . . . . . K, I, p 110  
 Washoe Mountains . . . . . K, I, p 110; K, II, p 477  
 West Humboldt Range . . . . . K, II, p 715  
 Wrights Canyon, vicinity of . . . . . K, I, p 110  
 from Utah, Cottonwood Canyon . . . . . K, I, p 110; K, II, p 356  
 from Wyoming, Black Hills . . . . . K, I, p 110  
 Granite Canyon . . . . . K, I, p 110  
 Iron Mountain . . . . . K, I, p 110; K, II, p 13  
 Laramie Hills . . . . . K, II, p 10  
 genesis of crystalline schists and . . . . . K, I, pp 112-121  
 of Black Hills . . . . . BH, pp 65-80  
 of Colorado, occurrence and character of . . . . . H, Ann 10, pp 210-211  
 of Fortieth Parallel region, character and distribution of . . . . . K, I, pp 107-111  
 microscopical petrography of . . . . . K, VI, pp 39-59  
 of Nevada, Washoe district . . . . . K, III, pp 19-21  
 thin section of, from Nevada, Havallah Range . . . . . K, VI, pl 2
- Granite Mountain, Nevada, geology of vicinity of . . . . . K, II, pp 689-712
- Granite Mountain district, California, notes on . . . . . W, 1871, p 51
- Granite Range, Nevada, geology of . . . . . K, II, pp 797-800  
 granite of . . . . . K, I, pp 93-94

- Granite-porphyry of Fortieth Parallel region, microscopical petrography of...K, vi,  
pp 60-70
- Graphite, analysis of, from Wyoming, Laramie Hills.....K, I, p 110; K, II, p 17
- Grass, analysis of, from New Mexico, Jemez Mountains, Abiquiu Mountains,  
and Las Vegas.....W, 1875, p 138
- Grasses, analysis of, from New Mexico, Jemez Mountains.....W, vi, p 32
- Grass Valley, Utah, geology of .....HP, pp 248-251
- Gravel Creek, Idaho, geology near .....H, Ann 11, pp 342-344
- Graves and kjökkenmöddings of Oregon, coast of...H, Bull, vol III, No 1, pp 27-35  
of Santa Barbara Islands and the adjacent mainland .....H, Bull,  
vol III, No 1, pp 37-56
- (See, also, Ethnology and archæology.)
- Gray (A.), botany of Black Hills.....BH, pp 529-537
- Eriogonææ of Great Basin .....K, v, pp 298-313
- Polemoniaceæ of Great Basin.....K, v, pp 259-272
- Gray (A.) and Hooker (J. D.), the vegetation of the Rocky Mountain region  
and a comparison with that of other parts of the world.....H, Bull,  
vol VI, No 1, pp 1-77
- Great Basin, birds of .....K, IV, pp 316-328, 377-386
- botany of.....K, v
- geographical notes on .....K, v, pp xiii-xvi
- geologic features of .....K, III, pp 1-4
- meteorology of, notes on.....K, v, pp xvii-xxii
- mountain ranges of .....W, III, pp 21-42
- orographic structure of.....UM, pp 23-25
- Paleozoic rocks of.....K, I, pp 181-226
- physical features of .....K, IV, pp 313-316
- topographic features and agricultural prospects in .....H, Ann 5, pp 227-237
- water supply of .....W, III, pp 105-117
- (See, also, Nevada; Utah; Fortieth Parallel region; names of mountain  
ranges, etc.)
- Great Plains, cultivation experiments on, along the line of the Kansas Pacific  
Railway.....H, Ann 5, pp 274-279
- physical aspects of.....K, II, pp 2-4
- tree growth on.....H, Ann 4, pp 456-457
- Great Salt Lake, current, evaporation, etc., of .....W, 1879, pp 228-231
- description of.....H, Ann 5, pp 233-235
- geology of vicinity of .....K, II, pp 431-442
- north of .....K, II, pp 420-430
- south of .....K, II, pp 443-461
- insects inhabiting .....H, Ann 6, pp 743-746
- level of, fluctuation in .....K, I, p 497; AL, pp 58-77
- outlet of, discussion of supposed ancient ..H, Bull, vol I, ser 2, No 5, pp 413-414
- Great Salt Lake drainage system, Utah, irrigable lands of.....AL, pp 113-127
- Great Salt Lake Valley, Utah, agriculture in.....H, Ann 4, pp 237-241
- geology from Bear River to .....H, Ann 4, pp 147-161
- Green Mountain district, California, notes on.....W, 1876, pp 52-53
- Green Mountain district, Nevada, notes on .....W, 1871, p 47
- Green River, Wyoming, astronomical determinations at .....W, II, pp 129-154
- Green River Basin, Wyoming, geology of.....H, Ann 11,  
pp 523-542; H, Ann 12, I, pp 202-207
- physical features of.....K, II, pp 191-194
- topographic features of .....H, Ann 11, pp 689-693
- Green River coal basin, geology of.....K, III, pp 451-473

- Green River district, Wyoming, agriculture in .....H, Ann 4, pp 233-237  
 geology of .....H, Ann 11, pp 509-646
- Green River group, distribution of .....H, Mon VIII, pp 127-134  
 exposures of .....UM, p 45  
 flora of .....H, Mon VIII, pp 127-217  
 invertebrate fossils of, list of .....H, Bull, vol III, No 3, p 611  
 occurrences and age of .....H, Ann 8, pp 147-148, 156-158
- of Colorado, Grand River district .....H, Ann 10, pp 184-185  
 northwestern .....H, Ann 10, pp 35-37  
 White River district .....H, Ann 10, pp 82-86, 111
- of Fortieth Parallel region .....K, I, pp 377-394
- of Utah, Grand River district .....H, Ann 10, pp 184-185  
 Uinta Mountains .....UM, pp 166-167  
 White River district .....H, Ann 10, pp 82-86, 111
- of Wyoming .....H, Ann 11, pp 130-132  
 Green River and vicinity .....K, II, pp 240-244  
 Green River region .....H, Ann 11, pp 637-639
- (See, also, Green River shales.)
- Green River region, paleontological characteristics of Mesozoic and Cenozoic  
 groups of .....H, Bull, vol III, No 3, pp 625-629
- Green River shales, fishes of .....H, Ann 4, pp 425-431; H, Mon I, pp 194-197  
 ichthyological fauna of, contribution to knowledge of .....H, Bull,  
 vol III, No 4, pp 806-819  
 insects of .....H, Bull, vol IV, No 4, pp 747-776
- Greensand. (See Glauconite.)
- Griffin (E.), report of .....W, 1879, pp 223-228
- Groom district, Nevada, notes on .....W, 1871, pp 44-45
- Gros Ventre Basin, Wyoming, geology of .....H, Ann 12, I, pp 219-227
- Gros Ventre Range, Wyoming, geology of .....H, Ann 11,  
 pp 448-456; H, Ann 12, I, pp 208-218
- Grote (A. R.), descriptions of Noctuidæ, chiefly from California .....H, Bull,  
 vol IV, No 1, pp 169-187
- new moths, principally collected by Mr. Roland Thaxter in Maine, with  
 notes on noxious species and remarks on classification .....H, Bull,  
 vol VI, No 3, pp 579-591
- new moths, with partial catalogue of Noctuæ .....H, Bull, vol VI, No 3, pp 563-578
- North American moths with a preliminary catalogue of the species of  
 Hadena and Polia .....H, Bull, vol VI, No 2, pp 257-277
- notes on a collection of noctuid moths made in Colorado in 1875 by Dr.  
 A. S. Packard, jr. ....H, Bull, vol III, No 1, pp 115-120
- on Lithophane and new Noctuidæ .....H, Bull, vol V, No 2, pp 201-208
- preliminary list of the North American species of Agrostis, with descrip-  
 tions .....H, Bull, vol VI, No 1, pp 149-164
- preliminary studies on the North American Pyralidæ .....H, Bull,  
 vol IV, No 3, pp 669-705
- Guadeloupe Island, ornithology of .....H, Bull, vol II, No 2, pp 183-195
- Gunnison, Utah, astronomical determinations at .....W, II, pp 99-125
- Gunnison River, Colo., geology of vicinity of .....H, Ann 8, pp 94-105, 107-109, 123,  
 126-128, 131-137; H, Ann 9, pp 43-46
- Gypsum, analysis of, from Wyoming, Red Valley .....K, I, p 253; K, II, p 37
- Hagen (H. A.), Odonata from the Yellowstone .....H, Ann 6, pp 727-729
- report on the pseudo-Neuroptera and Neuroptera collected by Lieut. W. L.  
 Carpenter in 1873, in Colorado .....H, Ann 7, pp 571-606

- Hagen (H. A.), report upon the collections of Neuroptera and pseudo-Neuroptera made in portions of Colorado, New Mexico, and Arizona, 1872-1874 ..... W, v, pp 909-922
- Hague (A.), chemistry of the Washoe process ..... K, III, pp 273-293  
geology of the White Pine district..... K, III, pp 409-422
- Hague (A.) and Emmons (S. F.), descriptive geology of Fortieth Parallel region..... K, II
- Hague (J. D.), mining industry in Fortieth Parallel region ..... K, III
- Ha-ilt-zukh language, vocabulary of..... Eth, I, pp 143-153  
(See, also, Ethnology and archæology.)
- Haldeman (S. S.), beads of Indians of southern California..... W, VII, pp 263-271
- Hall (J.) and Whitfield (R. P.), paleontology of Fortieth Parallel region .... K, IV, pp 199-302
- Hams Fork, Wyoming, geology near..... H, Ann 11, pp 532, 534-535
- Hardscrabble district, Colorado, notes on ..... W, 1876, pp 48-49
- Haskill (—.), short descriptions of some of the valleys of Nevada..... H, Ann 5, pp 271-273
- Havallah Range, Nevada, geology of..... K, II, pp 673-688  
granite of..... K, I, pp 80-83  
Triassic rocks of..... K, I, pp 280-281
- Hayden (F. V.), notes descriptive of some geological sections of the country about the headwaters of the Missouri and Yellowstone rivers.. H, Bull, vol II, No 3, pp 197-209
- notes on some artesian borings along the line of the Union Pacific Railroad in Wyoming Territory..... H, Bull, vol III, No 1, pp 181-185
- notes on some peculiar forms of erosion in eastern Colorado ..... H, Bull, vol I, ser 2, No 3, pp 210-211
- notes on the Lignitic group of eastern Colorado and portions of Wyoming..... H, Bull, vol I, ser 2, No 5, pp 401-411
- notes on the surface features of the Colorado or Front Range of the Rocky Mountains..... H, Bull, vol I, ser 2, No 4, pp 216-220
- preliminary report for 1877 ..... H, Uncl 13
- preliminary report for 1878 ..... H, Uncl 16
- remarks on the geological formations along the eastern margins of the Rocky Mountains..... H, Uncl 16, pp 13-16
- report on geology of Nebraska..... H, Uncl 1, pp 7-79
- some remarks in regard to the period of elevation of those ranges of the Rocky Mountains near the sources of the Missouri River and its tributaries ..... H, Uncl 16, pp 9-13
- sketch of the geology about the headwaters of the Missouri and Yellowstone rivers ..... H, Uncl 16, pp 21-29
- the Primordial sandstone of the Rocky Mountains in the Northwestern Territories of the United States ..... H, Uncl 16, pp 16-21
- the so-called Two Ocean Pass ..... H, Bull, vol V, No 2, pp 223-225
- report on explorations in Colorado..... H, Ann 8, pp 1-71
- work in charge of, report on..... LOR, 1867, pp 128-181; LOR, 1868, pp 220-255; H, Ann 1, pp 5-64; H, Ann 2, pp 67-107; H, Ann 4, pp 3-188; H, Ann 5, pp 3-204; H, Ann 6, pp 11-313; H, Ann 7, pp 17-82; H, Ann 9, pp 1-28; H, Ann 10, pp xiii-xxix; H, Ann 11, pp vii-xxviii; H, Ann 12, I, pp xiii-xviii; II, pp xvii-xxiv
- Helena. Montana, geology between Three Forks and ..... H, Ann 6, pp 81-82
- Hemiptera of Arizona, Colorado, New Mexico, and California..... W, 1877, pp 1322-1334

- Hemiptera of Arizona and adjacent States.....W, v, pp 829-841  
 of California and adjacent States.....W, v, pp 829-841  
 of California, Colorado, and Arizona.....W, 1877, pp 1322-1334  
 of Colorado and adjacent States.....W, v, pp 829-841  
 of Colorado, eastern, and New Mexico, northeastern, list of.....H, Ann 4,  
 pp 471-472  
 of Colorado, New Mexico, Arizona, and California.....W, 1877, pp 1322-1334  
 of Dakota and Montana.....H, Bull, vol iv, No 2, pp 503-512  
 of Nevada, Utah, California, Colorado, New Mexico, and Arizona.....W, v,  
 pp 829-841  
 of Montana and Dakota.....H, Bull, vol iv, No 2, pp 503-512  
 of New Mexico and adjacent States.....W, v, pp 829-841  
 of New Mexico, Colorado, Arizona, and California.....W, 1877, pp 1322-1334  
 of New Mexico, northeastern, and Colorado, eastern, list of.....H, Ann 4,  
 pp 471-472  
 of Utah and adjacent States.....W, v, pp 829-841  
 of western States.....H, Ann 5, pp 392-423  
 list of.....H, Bull, vol i, ser 2, No 5, pp 269-361  
 (See, also, Invertebrates.)
- Henry Mountains, Utah, geology of.....HM  
 Henryite, analyses of, from Colorado, Gold Hill, Red Cloud mine.....H, Ann 7,  
 p 353; H, Ann 10, p 144
- Henrys Fork, Wyoming, geology near.....H, Ann 4, pp 56-63  
 Henrys Fork Basin, Wyoming, geology of.....K, II, pp 261-269  
 Henrys Fork group, exposures of.....UM, p 50  
 of Uinta Mountains.....UM, pp 153-154
- Henshaw (H. W.), annotated list of the birds of Arizona.....W, 1875, pp 153-166  
 annotated list of the birds of Utah.....W, Uncl 4, pp 39-54; W, Uncl 7  
 cliff house and cave on Diamond Creek, New Mexico.....W, VII, pp 370-371  
 introductory notes to the account of the voyage of Cabrillo...W, VII, pp 293-298  
 list of birds collected in Colorado, New Mexico, and Arizona.....W, Uncl 4,  
 pp 55-148  
 notes on ornithology of portions of New Mexico and Arizona.....W, 1875,  
 pp 149-150  
 notes on the mammals taken and observed in California in 1875.....W, 1876,  
 pp 305-312  
 ornithological report from observations and collections made in portions  
 of California, Nevada, and Oregon.....W, 1879,  
 pp 282-335  
 preliminary report on the ornithology of portions of California and  
 Nevada.....W, 1878, pp 185-186  
 report on the ornithology of portions of Nevada and California.....W, 1877,  
 pp 1303-1322  
 report on the ornithology of the portions of California visited in 1875..W, 1876,  
 pp 224-278  
 report upon the ornithological collections made in portions of Nevada,  
 Utah, California, Colorado, New Mexico, and Arizona,  
 1871-1874.....W, v, pp 131-507
- Henshaw (H. W.) and Jordan (D. S.), report upon fishes collected in Cali-  
 fornia and Nevada.....W, 1878, pp 187-205
- Henshaw (H. W.) and Yarrow (H. C.), report upon and list of birds collected  
 in Utah and Nevada in 1872.....W, Uncl 4, pp 5-33  
 report upon the reptiles and batrachians collected in 1875-1877 in Califor-  
 nia, Arizona, and Nevada.....W, 1878, pp 206-226

- Hering (R.), means of access to the Yellowstone National Park by railroads. . . . . H, Ann 6, pp 92-95
- Herodiones, studies of the American. . . . . H, Bull, vol iv, No 1, pp 219-251  
(See, also, Vertebrates.)
- Herpetology of Dakota and Montana. . . . . H, Bull, vol iv, No 1, pp 259-291  
(See, also, Vertebrates.)
- Hessite, analysis of, from Colorado, Gold Hill, Red Cloud mine . . . . . H, Ann 10, pp 144, 145
- Hetch Hetchy Valley, California, description of. . . . . W, 1879, pp 259-260
- Hidatsa Indians, ethnography and philology of. . . . . H, Misc 7  
(See, also, Ethnology and archaeology.)
- Highams Peak Ridge, Idaho, geology near. . . . . H, Ann 11, pp 330, 335-337
- Hilgard, Mount, Utah, geology of. . . . . HP, pp 269-271
- Hillers, Mount, Utah, geology of. . . . . HM, pp 30-35
- Hoback Canyon Ridge, Wyoming, geology of. . . . . H, Ann 12, i, pp 178-187
- Hodge (J. T.), on the Tertiary coals of the West. . . . . H, Ann 4, pp 318-329
- Hoffman (W. J.), annotated list of the birds of Nevada. . . . . H, Bull, vol vi, No 2, pp 203-256
- miscellaneous ethnographic observations on Indians inhabiting Nevada,  
    California, and Arizona. . . . . H, Ann 10, pp 459-478
- on the mineralogy of Nevada. . . . . H, Bull, vol iv, No 3, pp 731-745
- report on the Chaco cranium. . . . . H, Ann 10, pp 451-457
- Holcomb Valley mining district, California, notes on. . . . . W, 1879, p 190
- Holmes (W. H.), geological report on San Juan district, Colorado . . . . . H, Ann 9, pp 237-276
- fossil forests of the volcanic Tertiary formations of the Yellowstone National  
    Park . . . . . H, Bull, vol v, No 1, pp 125-132
- notice of the ancient ruins of southwestern Colorado examined during the  
    summer of 1875. . . . . H, Bull, vol ii, No 1, pp 3-24
- report on ancient ruins of southwestern Colorado, examined during the  
    summers of 1875 and 1876 . . . . . H, Ann 10, pp 383-408
- report on geology of northwestern portion of the Elk Range. . . . . H, Ann 8, pp 59-71
- report on geology of the Sierra Abajo and West San Miguel Mountains. . . . . H, Ann 10, pp 187-195
- report on the geology of Yellowstone National Park. . . . . H, Ann 12, ii, pp 1-64
- Holmes, Mount, Utah, geology of . . . . . HM, pp 27-30
- Hoofs of Virginian deer, consolidation of . . . . . H, Bull, vol iv, No 1, pp 293-294  
(See, also, Vertebrates.)
- Hooker (J. D.) and Gray (A.), the vegetation of the Rocky Mountain region,  
    and a comparison with that of other parts of the world. . . . . H, Bull, vol vi, No 1, pp 1-77
- Horn (G. H.), Coleoptera [collected in Wyoming and Idaho in 1872, report  
    on] . . . . . H, Ann 6, p 717
- Coleoptera, list of . . . . . H, Ann 5, pp 382-392
- list of Coleoptera collected by C. Thomas in eastern Colorado and north-  
    eastern New Mexico during the survey of 1869 . . . . . H, Ann 4, pp 469-470
- Hornblende, thin section of, from diorite of Nevada, Winnemucca Peak. . . . . K, vi, pl 3
- thin section of, from granite-porphry of Utah, Bingham Canyon, vicinity  
    of . . . . . K, vi, pl 3
- from hornblende-andesite of Nevada, Augusta Canyon. . . . . K, vi, pl 5
- from hornblende-porphry of Nevada, Augusta Mountains, . . . . . K, vi, pl 4
- Hornblende-andesite of Nevada, microscopic petrography of . . . . . K, vi, pp 122-133
- of Nevada Plateau. . . . . K, i, pp 562-567
- thin section of, from Nevada, Cortez Range . . . . . K, vi, pl 5



- Hornblende-porphry of Nevada, Augusta Mountains, microscopic petrography of.....K, vi, pp 94-96
- Hornblende rock, thin section of, from Nevada, Havallah Range .....K, vi, pl 4
- Horse Creek, Wyoming, geology near .....H, Ann 11, pp 527-528
- Horses of Nevada, Comstock lode.....K, iii, pp 68-71
- Houses and house life of the American aborigines .....Eth, iv  
(See, also, Ethnology and archæology.)
- Howell (E. E.), report on the geology of portions of Utah, Nevada, Arizona, and New Mexico.....W, iii, pp 227-301
- Hoxie (R. L.), report of.....W, 1874, pp 5-7
- Hoxie (R. L.) and Marshall (W. L.), meteorological observations, instructions for taking.....W, Uncl 10; W, Uncl 12
- Hualapais district, Arizona, notes on.....W, 1871, pp 53-54; W, 1876, pp 55-56
- Hughes, Colorado, astronomical determinations at .....W, ii, pp 239-263
- Human remains of Colorado, southwestern, and New Mexico, northern, ancient ruins of .....H, Bull, vol ii, No 1, pp 47-63  
of New Mexico, Eocene plateau of northwestern.....W, 1875, pp 166-173  
of northwestern .....W, vii, pp 351-361  
(See, also, Ethnology and archæology.)
- Humboldt group of Fortieth Parallel region.....K, i, pp 434-443
- Humboldt Range, Nevada, Archean rocks of .....K, i, pp 62-70  
glaciers, extinct, of.....K, i, pp 475-476
- Humboldt River, Nevada, region north of, geology of.....K, ii, pp 590-617
- Humboldt Valley, Nevada, geology of.....K, ii, pp 740-744
- Hyaline-rhyolite of Nevada and Utah, microscopic petrography of.....K, vi, pp 206-215
- Hydrographic surveys, organization, cost, etc., of.....W, i, pp 468-479
- Hymenoptera collected in Kansas, northwestern....H, Bull, vol v, No 3, pp 349-370  
collected in Nevada, Utah, Colorado, New Mexico, and Arizona, portions of.....W, v, pp 705-736  
(See, also, Invertebrates.)
- Hypsometry, barometric, results of, 1871-75.....W, ii, pp 493-566
- Hypsometry and meteorology, methods of .....W, 1875, pp 47-54
- Ihenpah Mountains, Utah, geology of.....K, ii, pp 472-476
- Iceland, springs, thermal, and geysers of.....H, Ann 12, ii, pp 304-312
- Ichthyological fauna of the Green River shales, contributions to knowledge of.....H, Bull, vol iii, No 4, pp 806-819  
(See, also, Invertebrates; Invertebrates, fossil.)
- Idaho, agriculture in eastern.....H, Ann 5, pp 244-248
- Aspen Ridge, geology of.....H, Ann 11, pp 558-559
- Bannock Range, geology of.....H, Ann 11, pp 570-572
- Bear Lake Plateau, geology of.....H, Ann 11, pp 582-587
- Bear Lake Valley, geology of .....H, Ann 11, pp 587-589
- Bear River, geology near .....H, Ann 5, pp 150-156
- Bear River Basin, topography of .....H, Ann 11, pp 697-702
- Bear River Range, geology of .....H, Ann 11, pp 598-600
- Bear River region, geology of .....H, Ann 11, pp 573-603
- birds collected in Wyoming, Utah, and, in 1872.....H, Ann 6, pp 670-715
- Blackfoot Basin, geology of.....H, Ann 11, pp 556-563  
topography of.....H, Ann 11, p 695
- Blackfoot Range, geology near .....H, Ann 11, pp 338-339
- Cache Valley, geology of .....H, Ann 11, pp 603-606
- Caribou Range, geology of.....H, Ann 11, pp 360-405
- elevations in .....H, Bull, vol v, No 3, p 457; H, Misc 1 (3d ed), p 16; H Misc 1 (4th ed), p 68
- explorations in Wyoming and .....H, Ann 11

- Idaho, explorations in parts of Montana, Wyoming, Utah, and, for year  
 1872.....H, Ann 6
- Fall Creek region, geology of .....H, Ann 11, pp 364-371
- Fort Hall, geology between Fort Ellis, Montana and .....H, Ann 5, pp 27-44  
 geology between Ogden, Utah, and.....H, Ann 5,  
 pp 13-26; H, Ann 6, pp 197-207
- meteorological observations at .....H, Misc 2, pp 4-46
- fossils of Juratrias of southeastern.....H, Bull, vol v, No 1, pp 105-117  
 of Triassic of southeastern .....H, Ann 12, pp 105-118
- Gentile Valley, geology of .....H, Ann 11, pp 600-602
- Gravel Creek, geology near .....H, Ann 11, pp 342-344
- Green River district, geology of.....H, Ann 11, pp 509-646
- Highams Peak Ridge, geology near .....H, Ann 11, pp 330, 335-337
- Iowa district, notes on .....W, 1878, p 88
- John Gray Lake, geology near .....H, Ann 11, pp 357-358
- Juratrias section of western Wyoming and southeastern.....H, Bull, vol v,  
 No 1, pp 119-123
- Lincoln Valley, geology of.....H, Ann 11, pp 330-335  
 locusts in .....H, Uncl 14, pp 96-97, 158
- McCoy Creek, geology near.....H, Ann 11, pp 391-402
- Malade Range and Valley, geology of .....H, Ann 11, pp 606-609
- mammals collected in Wyoming, Utah and, in 1872 .....H, Ann 6, pp 661-669
- Marsh Creek, geology near .....H, Ann 11, pp 565-567
- meteorological observations in Utah, Montana and, in 1872 .....H, Misc 2
- Pierres Hole, geology at and near .....H, Ann 11, pp 438-441
- Pierres Mountains, geology of.....H, Ann 11, pp 425-432
- plants collected in Montana, Utah, Wyoming and.....H, Ann 6, pp 747-792
- Portneuf River, geology near .....H, Ann 11, pp 563-567  
 geology of .....H, Ann 11, pp 328, 567-569
- Preuss Range, geology of .....H, Ann 11, pp 589-590
- Putnam, Mount, geology near.....H, Ann 11, p 328
- Ross Fork, geology along .....H, Ann 11, pp 328-329
- Snake River, course and character of .....H, Ann 6, pp 267-270
- Snake River Range, geology of.....H, Ann 11, pp 424-425
- Snake River Valley, geology of lower .....H, Ann 11, pp 405-410  
 resources of.....H, Ann 6, pp 86-91
- Soda Springs, geology near .....H, Ann 11, pp 590-596
- springs in Bear River region .....H, Ann 5, pp 152-154
- Thomas Fork, geology near.....H, Ann 11, pp 581-582
- Three Pine Canyon, geology near.....H, Ann 11, p 339
- Virginia City, geology near .....H, Ann 5, pp 171-172
- Willow Creek Basin, geology in.....H, Ann 11, pp 349-351
- Willow Creek ridges, geology of.....H, Ann 11, pp 351-360
- Igneous rocks of Colorado, central.....W, III, pp 411-425  
 of Colorado, distribution, character, origin, etc., of.....H, Ann 10, pp 199-272  
 Eagle, Grand, and Gunnison rivers.....H, Ann 8, pp 163-174  
 Grand River district.....H, Ann 9, pp 93-98  
 northwestern .....H, Ann 10, p 39  
 plains .....H, Ann 7, pp 129-131  
 San Juan region.....H, Ann 8, pp 193-209; H, Ann 9, pp 268-276  
 Spanish Peaks region .....W, 1879, p 280  
 White River district .....H, Ann 10, pp 97-101, 111-114  
 of Idaho, eastern, and Wyoming, western .....H, Ann 11, pp 498-508  
 of New Mexico, north-central.....W, III, Supp, pp 164-172

- Igneous rocks of Utah, Grand River district.....H, Ann 9, pp 93-98  
 of Utah, Henry Mountains, lithologic character of.....HM, pp 61-65  
 White River district.....H, Ann 10, pp 97-101, 111-114  
 of Wyoming, western, and Idaho, eastern.....H, Ann 11, pp 498-508  
 of Yellowstone Park, petrographic notes on.....H, Ann 12, II, pp 57-62  
 (See, also, Eruptive rocks; Volcanic rocks.)
- Ilmenite, analysis of, from Wyoming, Iron Mountain.....K, I, p 110
- Implements, iron, of Indians of southern California.....W, VII, pp 272-276  
 (See, also, Ethnology and archæology.)
- Implements, stone, of southern California.....W, VII, pp 49-69  
 (See, also, Ethnology and archæology.)
- Implements and weapons made of bone and wood from southern California..W, VII,  
 pp 222-233  
 (See, also, Ethnology and archæology.)
- Implements, pottery, etc., obtained in New Mexico and Arizona..W, VII, pp 374-390  
 (See, also, Ethnology and archæology.)
- Incrustation, analysis of, from Nevada, Humboldt Range.....K, II, p 541  
 analysis of, from Nevada, Lake Bonneville.....K, I, p 502  
 from Nevada, Peko station.....K, II, p 594  
 Ruby Valley.....K, II, p 541
- Independence, Iowa, dark shale at, fossils of.....H, Bull, vol IV, No 3, pp 725-730
- India, primitive lapidarian sculptures in.....Eth, V, pp 31-39
- Indian Creek, Wyoming, laccolite on.....H, Ann 12, II, pp 24-25
- Indian languages, comparative vocabulary of.....Eth, I,  
 pp 121-153, 249-285; W, VII, pp 424-485  
 of southern California, analytical report on idioms of.....W, 1876, pp 330-343  
 (See, also, Ethnology and archæology.)
- Indian Territory, elevations in..H, Misc 1 (3d ed), p 10; H, Misc 1 (4th ed), p 67  
 locusts in.....H, Uncl 14, pp 63-64
- Indian tribes of Alaska.....Eth, I, pp 1-106  
 of California.....Eth, III  
 of Northwest.....Eth, I, pp 1-106  
 of Washington, western, and Oregon, northwestern.....Eth, I, pp 157-241  
 (See, also, Ethnology and archæology.)
- Indians, houses and house life of.....Eth, IV  
 of Nevada, southern and southeastern.....W, 1869, pp 35-37  
 of Nevada and Arizona.....W, 1871, pp 27-29, 74-76  
 of Nevada, California, and Arizona, miscellaneous ethnographic observa-  
 tions on.....H, Ann 10, pp 461-478  
 of Washington, Skokomish Reservation, customs, language, etc., of....H, Bull,  
 vol III, No 1, pp 57-114  
 of western States and Territories.....W, I, pp 211-222  
 photographs of, catalogue of.....H, Misc 5 (1st ed), pp 67-83; H, Misc 9  
 (See, also, Ethnology and archæology; name of individual tribes and  
 nations.)
- Infusorial earth, analysis of, from Nevada, Fossil Hill and Little Truckee  
 River.....K, I, p 542
- Ingersoll (E.), report on the natural history of the United States Geological  
 and Geographical Survey of the Territories, 1874.....H, Ann 8,  
 pp 385-410; H, Bull, vol I, ser 2, No 2, pp 121-124  
 special report on the Mollusca.....H, Bull, vol I, ser 2, No 2, pp 125-142
- Inuit, origin of.....Eth, I, pp 93-106  
 terms of relationship used by.....Eth, I, pp 117-119  
 (See, also, Ethnology and archæology.)

- Insect fauna, alpine, collected in Colorado and New Mexico.... W, 1876, pp 301-305  
of Colorado ..... H, Ann 7, pp 539-542
- Insects affecting the cranberry, with remarks on other injurious insects.... H, Ann 10,  
pp 521-531  
collected in 1875, report on... II, Bull, vol III, No 2, pp 355-475; No 4, pp 765-796  
of Great Salt Lake and other saline or alkaline lakes in the West .... H, Ann 6,  
pp 743-746  
injuring field and garden crops in western States and Territories ..... H, Ann 9,  
pp 589-809  
(See, also, Invertebrates.)
- Insects, fossil, of Green River shales ..... H, Bull, vol IV, No 4, pp 747-776  
of Tertiary, American, first discovered traces of ..... H, Bull, vol III,  
No 4, pp 741-762  
of Colorado and Wyoming, an account of some..... H, Bull, vol IV,  
No 2, pp 519-542  
of North America ..... II, Mon XIII  
(See, also, Invertebrates, fossil.)
- Invertebrates; Acrididæ of North America, synopsis of ..... H, Mon v  
Alpheus, synopsis of North American species of ..... H, Bull,  
vol IV, No 1, pp 189-199
- Aphididæ of the United States, notes on, with descriptions of species  
occurring west of the Mississippi River..... H, Bull,  
vol V, No 1, pp 1-32
- Arachnida, description of new ..... H, Ann 6, p 740
- Aranææ collected in Colorado in 1875, report on ..... H, Bull,  
vol III, No 2, pp 477-529
- Artemia fertilis Verrill from Great Salt Lake, Utah, notes on..... H, Ann 12,  
I, pp 459-463
- Artemia muehlhauseni, relation of Artemia salina to genus Branchipus  
Schaefer and..... II, Ann 12, I, pp 466-473
- Artemia salina, parthenogenesis in ..... H, Ann 12, I, pp 463-466  
relation of Artemia muehlhauseni to genus Branchipus Schaefer  
and ..... H, Ann 12, I, pp 466-473
- bees allied to Melissodes and Anthophora, generic arrangement of .... H, Bull,  
vol V, No 3, pp 471-479
- beetles collected in Colorado, list of ..... H, Ann 9, pp 811-815
- Bembecidæ, description of tribe Stizini ..... H, Bull, vol V, No 3, pp 341-347
- Bombycidæ and Zygænidæ collected in portions of California and Ari-  
zona ..... W, v, pp 795-802
- Branchiopodidæ, reproductive habits of, notes on ..... H, Ann 12, I, pp 420-452
- butterflies collected in Montana and Wyoming, list of species of..... H, Ann 5,  
pp 466-467  
collected in Colorado ..... H, Ann 7, p 542  
in Colorado and Utah in 1875..... H, Bull, vol II, No 3, pp 269-270  
in Utah, southern, and Arizona, northern, in 1877..... H, Bull,  
vol IV, No 1, pp 253-258
- Cambarus couesi, description of..... H, Bull, vol III, No 4, pp 803-804
- Carabidæ, description of two species of, from Toronto, Canada..... H, Bull,  
vol III, No 4, pp 763-764
- Cave fauna in Utah ..... H, Bull, vol III, No 1, pp 157-169
- Coleoptera collected in 1871, list of ..... H, Ann 5, pp 382-392  
of Arizona and adjacent States ..... W, v, pp 809-827  
of California, New Mexico, and Colorado, new species of..... W, 1876,  
pp 296-300

- Invertebrates; Coleoptera of California and adjacent States.....W, v, pp 809-827
- Coleoptera of Colorado, eastern, and New Mexico, northeastern, list of...H, Ann 4,  
     pp 469-470
- list of.....H, Ann 7, pp 566-571; H, Ann 9, pp 811-815
- of Colorado and adjacent States.....W, v, pp 809-827
- of Colorado, New Mexico, and California, new species of .....W, 1876,  
     pp 296-300
- of Idaho and Wyoming.....H, Ann 6, p 717
- of Nevada, Utah, California, Colorado, New Mexico, and Arizona,  
     portions of.....W, v, pp 809-827
- of New Mexico, northeastern, and Colorado, eastern, list of ....H, Ann 4,  
     pp 469-470
- of New Mexico and adjacent States.....W, v, pp 809-827
- of New Mexico, Colorado, and California, new species of...W, 1876, pp 296-300
- of Rocky Mountains, alpine regions.....H, Bull, vol iv, No 2,  
     pp 447-480; H, Bull, vol v, No 3, pp 499-520
- of Utah and adjacent States.....W, v, pp 809-827
- of Wyoming and Idaho.....H, Ann 6, p 717
- Crustacea from the West, descriptions of new phyllopod.....H, Bull, vol iii,  
     No 1, pp 171-185
- Crustacea, amphipod, report on.....H, Ann 7, pp 608-611
- Crustacea, fresh-water phyllopod, of North America, synopsis of....H, Ann 7,  
     pp 613-622
- Crustacea, Lernean, of Colorado.....H, Ann 7, p 612
- Crustaceans, phyllopod, bibliography of.....H, Ann 12, i, pp 453-457
- of North America, monograph on.....H, Ann 12, i, pp 295-457
- of West, description of new.....H, Bull, vol iii, No. 1, pp 171-175
- Diptera collected in Colorado in 1873.....H, Ann 7, pp 561-566
- collected in Colorado and Arizona.....W, v, pp 803-807
- descriptions of new genera and species of, from the West...H, Bull, vol iii,  
     No 2, pp 189-354
- earwigs, synopsis of North American.....H, Bull, vol ii, No 3, pp 249-260
- Entomostraca, new, from Colorado.....H, Bull, vol iii, No 1, pp 151-155
- gall-fly, pitch pine, description of.....H, Ann 10, pp 527-528
- Hemiptera collected in Colorado, eastern, and New Mexico, northeastern,  
   list of.....H, Ann 4, pp 471-472
- collected in Colorado, New Mexico, Arizona, and California .....W, 1877,  
     pp 1322-1334
- in Dakota and Montana in 1873-74....H, Bull, vol iv, No 2, pp 503-512
- in Nevada, Utah, California, Colorado, New Mexico, and Arizona,  
       portions of.....W, v, pp 829-841
- of region west of Mississippi River, list of .....H, Bull, vol i, ser 2, No 5,  
     pp 269-361
- of western Territories.....H, Ann 5, pp 392-423
- Hymenoptera collected in Kansas, northwestern..H, Bull, vol v, No 3, pp 340-370
- collected in Nevada, Utah, Colorado, New Mexico, and Arizona, por-  
     tions of.....W, v, pp 705-736
- insect fauna, alpine, of Colorado.....H, Ann 7, pp 539-542
- of Colorado and New Mexico.....W, 1876, pp 301-305
- insects affecting the cranberry, with remarks on other injurious in-  
   sects.....H, Ann 10, pp 521-531
- affecting field and garden crops in western States and Territories..H, Ann 9,  
     pp 589-909

- Invertebrates; insects collected in 1875, report on ..... H, Bull,  
vol III, No 2, pp 355-475; No 4, pp 765-796
- insects, description of new ..... H, Ann 6, pp 739-741  
of Great Salt Lake and other saline or alkaline lakes in the west. . . H, Ann 6,  
pp 743-746
- leeches collected in Colorado, list of ..... H, Ann 7, p 623
- leeches, fresh-water, collected in portions of Nevada, Utah, Colorado, New  
Mexico, and Arizona ..... W, v, pp 955-967
- Lepidoptera collected in Montana in 1874, discussion of ..... H, Bull,  
vol IV, No 2, pp 513-517
- Lithophane, descriptions of new Noctuidæ and. . . H, Bull, vol v, No 2, pp 201-208
- locust, Rocky Mountain, character, anatomy, enemies, destruction,  
etc., of ..... H, Ann 9, pp 589-809; H, Uncl 14, pp 1-476  
destruction of young ..... H, Uncl 11  
natural history of ..... H, Uncl 12
- Mallophaga, descriptions of new species of ..... H, Ann 6, pp 731-734
- Mollusca of Colorado ..... H, Ann 8, pp 389-410  
of Nebraska, lacustrine deposits, list of ..... H, Ann 8, pp 266-269  
report on. . . H, Ann 4, pp 467-469; H, Bull, vol I, ser 2, No 2, pp 125-142
- Mollusca, alpine, of Colorado ..... H, Ann 7, p 542
- Mollusca, terrestrial, collected in Colorado, list of. . . H, Ann 7, p 523
- Mollusca, terrestrial and fluviatile, collected in portions of Colorado, Utah,  
New Mexico, and Arizona ..... W, v, pp 923-954
- moth, cranberry, description of ..... H, Ann 10, p 522
- moths, description of new, with partial catalogue of Noctuæ ..... H, Bull,  
vol VI, No 3, pp 563-578  
of Colorado, geographical distribution of. . . H, Ann 7, pp 543-559  
of Maine, new species of, with note on noxious species, and remarks  
on classification ..... H, Bull, vol VI, No 3, pp 579-591  
of North America, description of, with a preliminary catalogue of the  
species of *Hadena* and *Polia*. . . H, Bull, vol VI, No 2, pp 257-277
- moths, noctuid, collected in Colorado in 1875, notes on ..... H, Bull,  
vol III, No 1, pp 115-120
- moths, tineid, collected in Colorado in 1875, notes on ..... H, Bull,  
vol III, No 1, pp 143-145
- moths, geometrid, or Phalenidæ of United States, monograph on. . . H, Mon x
- Myriopoda of Colorado ..... H, Ann 7, p 607
- Neuroptera and pseudo-Neuroptera collected in Colorado, report on. . H, Ann 7,  
pp 571-606  
collected in portions of Colorado, New Mexico, and Arizona ..... W, v,  
pp 909-922
- Noctuæ, catalogue, partial, of ..... H, Bull, vol VI, No 3, pp 568-578
- Noctuidæ, descriptions of *Lithophane* and. . . H, Bull, vol v, No 2, pp 201-208  
of California ..... H, Bull, vol IV, No 1, pp 169-187
- Odonata from the Yellowstone. . . H, Ann 6, pp 727-729
- Orthoptera collected in California, New Mexico, and Colorado ..... W, 1876,  
pp 278-295  
collected in Colorado in 1875, list of. . . H, Bull, vol II, No 3, pp 261-267  
in Dakota and Montana in 1873, discussion of ..... H, Bull,  
vol IV, No 2, pp 481-501  
in Nevada, Utah, California, Colorado, New Mexico, and Arizona,  
portions of. . . W, v, pp 843-908
- list and description of new species of ..... H, Ann 4, pp 263-284;  
H, Bull, vol I, ser 1, No 2, pp 63-71

- Invertebrates, Orthoptera of Nebraska, notes on ..... H, Uncl 1, pp 249-261
- Orthoptera of Rocky Mountain region ..... H, Ann 6, pp 717-725
- Orthoptera, saltatorial, of the Rocky Mountain region .... H, Ann 5, pp 423-466
- Phalenidæ of the United States, monograph on ..... H, Mon x
- Pyralidæ, preliminary studies on North American ..... H, Bull,  
vol iv, No 3, pp 669-705
- Rhizopods, fresh-water, of North America ..... H, Mon xii
- shells, land and fresh-water of Nebraska, catalogue of ..... H, Bull,  
vol iii, No 3, pp 697-704
- spiders, descriptions of two new, from Colorado ..... H, Bull,  
vol iii, no 2, pp 528-529
- Stizini, description of ..... H, Bull, vol v, no 3, pp 341-347
- Tineina of Colorado ..... H, Bull, vol iii, No 1, pp 121-142
- of Colorado, distribution of ..... H, Bull, vol iii, No 1, pp 147-150
- of Texas and more northern localities ..... H, Bull, vol iv, No 1, pp 79-106
- of United States and Canada, index to .... H, Bull, vol iv, No 1, pp 125-167
- Tineina and their food plants ..... H, Bull, vol iv, No 1, pp 107-123
- weevil, cranberry, description of ..... H, Ann 10, pp 525-526
- worms collected near Yellowstone River in 1871 ..... H, Ann 5, pp 381-382
- worms, parasitic, found in the brain and other parts of birds ..... H, Ann 6,  
pp 735-737
- Zygænidæ and Bombycidæ collected in portions of California and Arizona. . W, v,  
pp 795-802
- Invertebrates, fossil; collected in 1871-1873, preliminary report on ..... W, Uncl 6
- Coleoptera of Tertiary of Rocky Mountains ..... H, Bull, vol ii, No 1, pp 77-87
- corals of Cretaceous of Colorado ..... H, Bull, vol v, No 2, pp 220-221
- crayfish from Tertiary of western Wyoming ..... H, Bull,  
vol vi, No 2, pp 391-397
- goniatite from Kansas, eastern, notice of ..... H, Bull, vol i, ser 2, No 6, p 445
- insects of Green River shale ..... H, Bull, vol iv, No 4, pp 747-776
- of Tertiary rocks of Colorado and Wyoming, an account of some. . H, Bull,  
vol iv, No 2, pp 519-542
- of North America ..... H, Mon xiii
- first discovered traces of ..... H, Bull, vol iii, No 4, pp 741-762
- Mollusca of Colorado ..... H, Ann 8, pp 389-410
- of Cretaceous of Colorado ..... H, Ann 7, pp 455-456
- of Tertiary of Colorado, Utah, and Wyoming ..... H, Ann 12, i, pp 41-48
- molluscan species of Laramie group, distribution of ..... H, Bull,  
vol iv, No 3, pp 721-724
- of Black Hills ..... BH, pp 325-468; PBH
- of Canadian formation of Southwest ..... W, iv, pp 50-61
- of Utah and Nevada ..... W, Uncl 6, pp 8-12
- of Carboniferous of Arizona, Nevada, and New Mexico ..... W, iv,  
pp 79-161; W, Uncl 6, pp 15-23
- of Colorado, Arizona, Utah, Idaho, and Wyoming ..... H, Bull,  
vol v, No 2, pp 209-220
- of Fortieth Parallel region ..... K, iv, pp 50-99, 251-280
- of Interior States ..... H, Ann 12, i, pp 155-171
- of New Mexico ..... W, iii, Supp, pp iii-xxxvi
- of Plateau province ..... UM, pp 88-92, 107-109
- of Southwest ..... W, iv, pp 79-161
- of Utah and Wyoming, list of, collected in 1871 ..... H, Ann 5, pp 373-374
- of western States and Territories ..... H, Ann 12, i, pp 119-141

- Invertebrates, fossil, of Colorado, eastern base of Rocky Mountains, note on . . . H, Bull, vol 1, ser 2, No 1, pp 39-47
- of Colorado, Little Thompson Creek, list of . . . H, Ann 11, p 177
- St. Vrain River, list of . . . H, Ann 11, p 178
- of Cretaceous, geographical distribution of, table showing . . . H, Ann 11, pp 252-253
- of Arizona, Utah, Colorado, New Mexico . . . W, iv, pp 169-205
- of Black Hills . . . BH, pp 383-459; PBH, pp 27-46
- of Colorado . . . H, Ann 11, pp 175-177, 197, 205-207, 224, 225, 265-266
- of Colorado, Arizona, Utah, and New Mexico . . . W, iv, pp 169-205
- of Fortieth Parallel region . . . K, iv, pp 140-182
- of New Mexico, list of . . . H, Ann 11, pp 267-268
- of New Mexico and Utah . . . W, Uncl 6, pp 24-27
- of New Mexico, Colorado, Utah, and Arizona . . . W, iv, pp 169-205
- of Plateau province . . . UM, pp 94-101, 112-124
- of Southwest . . . W, iv, pp 169-205
- of Texas, Denison, Helotes, and Salado, list of . . . H, Ann 11, p 268-270
- of Utah, Ashleys Fork . . . H, Ann 11, p 229
- Coalville . . . H, Ann 11, pp 232-239
- of Utah and New Mexico . . . W, Uncl 6, pp 24-27
- of Utah and Wyoming, list of, collected in 1871 . . . H, Ann 5, pp 375-376
- of Utah, Colorado, New Mexico, and Arizona . . . W, iv, pp 169-205
- of Western States and Territories . . . H, Ann 4, pp 300-318; H, Ann 11, pp 273-319; H, Ann 12, 1, pp 3-39
- list of . . . H, Bull, vol III, No 3, p 610
- of Wyoming, Bear River Valley and Hilliard station . . . H, Ann 11, pp 248-250
- of Wyoming and Utah, list of, collected in 1871 . . . H, Ann 5, pp 375-376
- of Cretaceous and Tertiary of Upper Missouri country . . . H, Mon ix
- of Devonian of Fortieth Parallel region . . . K, iv, pp 25-50, 246-251
- of Fortieth Parallel region . . . K, iv, pp 1-302
- of Fox Hills group of Colorado . . . H, Ann 11, pp 179-186, 265-266
- of Green River group, list of . . . H, Bull, vol III, No 3, p 611
- of Jurassic of Black Hills . . . BH, pp 344-382; PBH, pp 13-26
- of Fortieth Parallel region . . . K, iv, pp 130-139, 284-299
- of Plateau province . . . UM, pp 92-94, 110-111
- of Southwest . . . W, iv, pp 162-168
- of Utah and Arizona . . . W, Uncl 6, pp 23-24
- of Utah and Wyoming, list of, collected in 1871 . . . H, Ann 5, pp 374-375; W, iv, pp 162-168
- of western States . . . H, Ann 12, 1, pp 143-153; H, Bull, vol III, No 3, p 610
- of Juratrias of southeastern Idaho . . . H, Bull, vol v, No 1, pp 105-117
- of Laramie group . . . H, Ann 12, 1, pp 49-103; H, Bull, vol iv, No 3, pp 707-719
- geographic distribution of, table showing . . . H, Ann 11, p 255
- list of . . . H, Bull, vol III, No 3, p 610
- of Colorado . . . H, Ann 11, pp 165-175, 190-197, 207-215
- of Wyoming . . . H, Ann 11, pp 215-224, 241-248
- of Nebraska, eastern . . . H, Uncl 1, pp 140-239
- of Nevada, Utah, Colorado, New Mexico, and Arizona in 1871-1874, portions of . . . W, iv, pp 1-219
- of North America, western portion, catalogue of, from the fresh- and brackish-water deposits . . . H, Bull, vol III, No 3, pp 607-614
- of Plateau province . . . UM, pp 74-135
- of Potsdam of Fortieth Parallel region . . . K, iv, pp 205-231



- Invertebrates, fossil, of Primordial of Black Hills . . . BH, pp 333-344; PBH, pp 8-11  
 of Primordial of Southwest . . . W, iv, pp 32-49  
     of Utah and Nevada . . . W, Uncl 6, pp 6-8  
 of shale, dark, of Independence, Iowa . . . H, Bull, vol iv, No 3, pp 725-730  
 of Silurian of Fortieth Parallel region . . . K, iv, pp 17-25, 205-246  
     of Southwest . . . W, iv, pp 32-78  
     of Utah, Nevada, and New Mexico . . . W, Uncl 6, pp 6-14  
 of Tertiary of Fortieth Parallel region . . . K, iv, pp 182-197  
     of Plateau province . . . UM, pp 102-106, 125-135  
     of Southwest . . . W, iv, pp 206-216  
     of Utah and Wyoming, list of, collected in 1871 . . . H, Ann 5, pp 376-377  
 of Tertiary and Cretaceous of the Upper Missouri country . . . H, Mon ix  
 of Tertiary lake basin at Florissant . . . H, Bull, vol vi, No 2, pp 288-300  
 of Trenton group of Nevada and New Mexico . . . W, Uncl 6, pp 12-14  
     of Southwest . . . W, iv, pp 62-78  
 of Triassic of Fortieth Parallel region . . . K, iv, pp 99-129, 280-283  
     of Idaho, southeastern . . . H, Ann 12, i, pp 105-108  
 of Utah and Wyoming, list of . . . H, Ann 5, pp 373-377  
 of Vancouver's and Sucia islands . . . H, Bull, vol ii, No 4, pp 351-374  
 of Wasatch of Colorado, White River Valley . . . H, Ann 11, pp 226-229  
 of Waverly group of Fortieth Parallel region . . . K, iv, pp 251-264  
 Orthoptera of Tertiary of Rocky Mountains . . . H, Bull,  
     vol i, ser 2, No 6, pp 447-449  
 Physidæ and Unionidæ collected in Montana in 1876, descriptions of . . . H, Bull,  
     vol iii, No 3, pp 599-602  
 Physopoda, Tertiary of Colorado . . . H, Bull, vol i, ser 2, No 4, pp 221-223  
 preservation of conditions of . . . H, Bull, vol v, No 1, pp 133-141  
 Uintacrinus Grinnell, notes on . . . H, Bull, vol ii, No 4, pp 375-378  
 Uniones of Tertiary of Wyoming and Utah, new species of . . . H, Bull,  
     vol iii, No 3, pp 603-606  
 Unionidæ of Mesozoic and Cenozoic of North America, comparison with  
     living species . . . H, Bull, vol iii, No 3, pp 615-624  
 Unionidæ and Physidæ collected in Montana in 1876, descriptions of . . . H, Bull,  
     vol iii, No 3, pp 599-602  
 Invertebrate paleontology, bibliography of North American . . . H, Miscel 10,  
     H, Bull, vol v, No 1, pp 143-152  
 Iowa, elevations in . . . H, Miscel 1 (3d ed), pp 6-8; H, Miscel 1 (4th ed), pp 68-75  
     Independence, dark shale at, fossils of . . . H, Bull, vol iv, No 3, pp 725-730  
     locusts in . . . H, Ann 9, p 617; H, Uncl 14, pp 77-80, App, pp 104-110  
 Iowa mining district, Idaho, description of . . . W, 1878, p 89  
 Ireland, primitive lapidarian sculptures in . . . Eth, v, pp 17-18  
 Iron in Utah, southwestern . . . W, iii, pp 261-263  
 Iron implements of Indians of southern California . . . W, vii, pp 272-276  
     (See, also, Ethnology and Archæology.)  
 Iron ore, analyses of, from Colorado . . . K, iii, p 483  
     analysis of, from Colorado, Golden . . . H, Ann 9, p 205  
     from Nevada, Palisade Canyon . . . K, ii, p 586  
     from Utah, southwestern . . . W, iii, p 262  
     from Wyoming, Iron Mountain . . . K, ii, p 151  
     Sheep Butte . . . K, ii, p 151  
     of New Mexico, Galisteo Creek region . . . W, iii, Supp, pp 394-395  
 Ironstone, analyses of, from Wyoming, Carbon . . . K, i, p 542  
 Irrigable lands, selection and water supply of, and other questions relating  
     to . . . AL, pp 81-92

|  |   |
|--|---|
| Irrigation, advantages of, storage of water, etc .....   | AL, pp 10-14  |
| in California, Santa Clara Valley .....  | H, Ann 5, pp 269-271  |
| in Colorado .....  | H, Ann 3, pp 149-150;                                       |
|  | H, Ann 1-3, pp 145-146; H Ann 10, pp 339-343                |
| in western Territories .....   | W, 1, pp 192-205  |
| Jackson (W. H.), ancient ruins in southwestern Colorado .....  | H, Ann 8,   |
|  | pp 367-381; H, Bull, vol 1, ser 2, No 1, pp 17-30           |
| descriptive catalogue of photographs of North American Indians .....   | H, Miscel 9   |
| descriptive catalogue of photographs of the United States Geological Survey of the Territories .....                 | H, Miscel 5   |
| notice of the ancient ruins in Arizona and Utah lying about the Rio San Juan .....                                   | H, Bull, vol II, No 1, pp 25-45                             |
| report on ancient ruins examined in 1875 and 1877 .....  | H, Ann 10, pp 409-453                                       |
| Jackson Hole, Wyoming, geology of .....  | H, Ann 11, pp 443-448                                       |
| Jackson Lake, Wyoming, geology near .....  | Ann 6, pp 261-264   |
| James (T. P.), Musci of Great Basin .....  | K, v, pp 398-411  |
| Musci of the Southwest .....   | W, VI, pp 341-351   |
| plants determined by .....   | W, Uncl, 5, pp 58-62  |
| Jenney (W. P.), mineral resources of Black Hills .....   | BH, pp 225-324  |
| John Day Ridge and Basin, Wyoming, geology of .....  | H, Ann 12, 1, pp 187-199                                    |
| John Day River, Wyoming, geology near .....  | H, Ann 11, pp 543-545                                       |
| John Day group, vertebrates of White River group and .....   | H, Mon III, pp 759-1002                                     |
| John Gray Lake, Idaho, geology near .....  | H, Ann 11, pp 357-358                                       |
| Jordan (D. S.), catalogue of the fishes of the fresh waters of North America .....                                   | H, Bull,  |
|  | vol IV, No 2, pp 407-442                                    |
| notes on a collection of fishes from the Rio Grande, at Brownsville, Texas .....                                     | H, Bull,  |
|  | vol IV, No 2, pp 397-406; H, Bull, vol IV, No 3, pp 663-667 |
| report on collection of fishes made by Dr. Elliott Coues in Dakota and Montana during seasons of 1873 and 1874 ..... | H, Bull,  |
|  | vol IV, No 4, pp 777-799                                    |
| Jordan (D. S.) and Henshaw (H. W.), report upon fishes collected in California and Nevada, 1875-1877 .....           | W, 1878, pp 187-205   |
| Judith River, Montana, geology of region of .....  | H, Bull, vol III, No 3, pp 565-577                          |
| Judith River group, geology of .....   | H, Bull, vol III, No 3, pp 565-567                          |
| invertebrate fossils of, list of .....   | H, Bull, vol III, No 3, p 612                               |
| of Montana, Physidæ and Unionidæ from .....  | H, Bull, vol III, No 3, pp 599-602                          |
| of Missouri River region, upper .....  | H, Mon IX, pp xlvii-lv                                      |
| fossil vertebrates of .....  | H, Bull, vol III, No 3, pp 588-597                          |
| Julesburg, Colorado, astronomical determinations at .....  | W, II, pp 433-448   |
| Julian district, California, notes on .....  | W, 1876, pp 59-60   |
| Junction Valley, Wyoming, geology of .....   | H, Ann 12, II, pp 42-47                                     |
| Jurassic fossils; invertebrates of Black Hills .....   | BH, pp 344-382, PBH, pp 13-26                               |
| invertebrates of Fortieth Parallel region .....  | K, IV, pp 130-139, 284-297                                  |
| of Plateau province .....  | UM, pp 92-94, 110-111                                       |
| of southwest .....   | W, IV, pp 162-168   |
| of Utah and Arizona .....  | W, Uncl 6, pp 23-24   |
| of Utah and Nevada .....   | W, IV, pp 162-168   |
| of Utah and Wyoming, list of, collected in 1871 .....  | H, Ann 5, pp 374-375  |
| of Western States .....  | H, Ann 12, 1, pp 143-153                                    |
| list of .....  | H, Bull, vol III, No 3, p 610                               |
| (See, also, Invertebrates, fossil.)  |   |
| of Montana and Idaho .....   | H, Ann 6, pp 434-435, 471-474                               |
| of Utah and Wyoming .....  | H, Ann 5, pp 374-375  |
| of western States .....  | H, Ann 12, 1, pp 143-153                                    |
| (See, also, Invertebrates, fossil; Vertebrates, fossil.)   |   |

- Jurassic rocks of Basin Range ..... W, III, pp 174-175  
 of Black Hills ..... BH, pp 151-169  
 of Colorado, central ..... W, III, pp 381-382  
   Eagle, Grand, and Gunnison rivers ..... H, Ann 8, pp 124-128  
   Front Range ..... H, Ann 8, pp 44-45; K, II, pp 37-39  
     east of ..... H, Ann 7, pp 98-100  
     northwestern ..... H, Ann 10, p 28  
 of Colorado Plateau ..... W, III, pp 280-282  
 of Fortieth Parallel area ..... K, I, pp 285-295, 343-347  
 of Idaho, eastern ..... H, Ann 11, pp 623-624  
   eastern, and Wyoming, western ..... H, Ann 11, pp 494-496  
 of Utah, high plateaus ..... HP, pp 150-154  
 of Wyoming, Colorado Range ..... K, II, pp 37-39  
   Rawlins Peak, vicinity of ..... H, Ann 11, p 121  
   Sweetwater Valley ..... H, Ann 11, pp 107-108  
   western ..... II, Ann 11, pp 623-624  
   western, and Idaho, eastern ..... H, Ann 11, pp 494-496  
   Wind River Range, vicinity of ..... H, Ann 11, pp 82-84  
 Juratrias rocks of Colorado, Sangre de Cristo Range ..... H, Ann 9, p 123  
   of Colorado, south-central, and New Mexico, north-central ..... W, III,  
     Supp, pp 85-87  
   Spanish Peaks region ..... W, 1879, p 276  
   White River district ..... H, Ann 10, pp 72-74, 107-108  
   of Idaho, southeastern, fossils of ..... H, Bull, vol v, No 1, pp 105-117  
   of New Mexico, north-central, and Colorado, south-central ..... W, III,  
     Supp, pp 85-87  
   of Utah, Henry Mountains ..... HM, pp 5-8  
     Uinta Mountains ..... UM, pp 150-153  
     White River district ..... H, Ann 10, pp 72-74, 107-108  
   Red beds of Colorado, White River district ..... H, Ann 10, pp 72-73  
 Juratrias section of southeastern Idaho and western Wyoming ..... H, Bull,  
     vol v, No 1, pp 119-123  
 (See, also, Triassic; Jurassic.)  
 Kai-ga-ni language, vocabulary of ..... Eth, I, pp 135-142  
 (See, also, Ethnology and archæology.)  
 Kalispelm, language, vocabulary of ..... Eth, I, pp 267-283  
 (See, also, Ethnology and archæology.)  
 Kamma Mountains, Nevada, geology of ..... K, II, pp 786-790  
 Kampf (F.), report on astronomical observations at Colorado Springs... W, Uncl 3,  
     pp 47-82  
 Kampf (F.) and Clark (J. H.), report on astronomical observations at  
   Cheyenne, Wyoming ..... W, Uncl 3, pp 2-45  
 Kampf (F.), Clark (J. H.), Maryatt (W. W.), and Safford (T. H.), astronom-  
   ical determinations in Nevada, Utah, Montana, Wyoming,  
   Nebraska, Colorado, and New Mexico, 1872-74 ..... W, II, pp 1-491  
 Kaniagmut language, vocabulary of ..... Eth, I, pp 136-142  
 (See, also, Ethnology and archæology.)  
 Kansas, climate of eastern Colorado and western ..... H, Ann 4, pp 453-456  
   Cretaceous rocks of, fossil reptiles and fishes of ..... H, Ann 4, pp 385-425  
     geology and paleontology of ..... H, Ann 5, pp 318-349  
   Cretaceous and Tertiary formations of Nebraska and, fossil plants of... H, Ann 4,  
     pp 370-385  
   Cretaceous and Tertiary periods of, notes on ..... H, Ann 9,  
     pp 277-294; H, Bull, vol II, No 3, pp 211-221  
   elevations in ..... H, Misc 1 (3d ed), pp 10-11; H, Misc 1 (4th ed), pp 75-79

- Kansas, Goniatite from eastern, notice of.....H, Bull, vol I, ser 2, No 6, p 445  
 Hymenoptera collected in northwestern.....H, Bull, vol V, No 3, pp 349-370  
 industrial resources of eastern Colorado and western.....H, Ann 4, pp 442-458  
 locusts in.....H, Ann 9, pp 615-616; H, Uncl 14, pp 68-74, App, pp 85-103  
     law regarding destruction of .....H, Uncl 9, p 10  
 Tertiary and Cretaceous formations of Nebraska and, fossil plants of.....H, Ann 4,  
     pp 370-385  
 Tertiary and Cretaceous periods of, notes on.....H, Ann 9,  
     pp 277-294; H, Bull, vol II, No 3, pp 211-221  
 water resources of eastern Colorado and western.....H, Ann 4, pp 448-452  
 Kansas Pacific Railway, experiments in cultivation on the plains along the  
     line of.....H, Ann 5, pp 274-279  
 Kaolin, analysis of, from Utah, Sam Pitch Creek.....W, III, p 263  
     in Utah, Gunnison .....W, III, p 263  
 Kaolinite, analysis of, from Arizona, San Francisco River.....W, III, p 637  
     analysis of, from Utah, Gunnison .....W, III, p 637  
 Kawsob Mountains, Nevada, geology of.....K, II, pp 766-774  
 Kearsarge district, California, notes on.....W, 1871, p 50  
 Kanosha Range, Colorado, topographic features of.....H, Ann 9, pp 410-411  
 King (C.), reports by. (See pp 38-39 of this bulletin.)  
     systematic geology of Fortieth Parallel region .....K, I  
 Kingsley (J. S.), a synopsis of the North American species of the genus  
     Alpheus .....H, Bull, vol IV, No 1, pp 189-199  
 Kinsley district, Nevada, granite and Archean rocks of .....K, I, pp 60-62  
 Kittistzu language, vocabulary of.....Eth, I, pp 143-153  
     (See, also, Ethnology and archæology.)  
 Kjökkenmöddings and graves of California, Santa Barbara Islands and the  
     adjacent mainland.....H, Bull, vol III, No 1, pp 37-56  
     of Oregon, coast of.....H, Bull, vol III, No 1, pp 27-35  
     (See, also, Ethnology and archæology.)  
 Klamath Indians, ethnographic sketch, grammar, text, dictionary of language,  
     bibliography, etc., of.....Eth, II  
     (See, also, Ethnology and archæology.)  
 Klamath region, Oregon, geography, flora, and fauna, etc., of.....Eth, II,  
     pt 1, pp xv-xxvii  
 Klett (F.), the cachina: a dance at the pueblo of Zuñi .....W, VII, pp 332-336  
 Komookhs language, vocabulary of .....Eth, I, pp 269-283  
     (See, also, Ethnology and archæology.)  
 Kulleespelm language, vocabulary of.....Eth, I, pp 267-283  
     (See, also, Ethnology and archæology.)  
 Kuwalitsk language, vocabulary of.....Eth, I, pp 269-283  
     (See, also, Ethnology and archæology.)  
 Kwa-kiutl language, vocabulary of.....Eth, I, pp 143-153  
     (See, also, Ethnology and archæology.)  
 La Plata River, Colorado, ruins on.....H, Bull, vol II, No 1, pp 6-7  
 La Plata Valley, Colorado, geology of.....H, Ann 9, pp 245-248, 268-272  
 La Veta Pass, Colorado, mountain ranges between head of the Pecos and,  
     geology of .....W, 1876, pp 199-202  
 Labradorite, analysis of, from Canada, Chateau Richer.....K, II, p 14  
 Labran, Colorado, astronomical determinations at.....W, II, pp 265-288  
 Laccolite, definition and cross sections of.....HM, pp 19-20  
     in Wyoming, Indian Creek.....H, Ann 12, II, pp 24-25  
     natural history of.....HM, pp 51-60  
 Ladd (S. B.), topographical reports of..H, Ann 7, pp 661-669; H, Ann 8, pp 435-442

- Lagopus leucurus*, breeding habits, nests, and eggs of.....H, Bull,  
vol 1, ser 2, No 5, pp 263-266
- (See, also, Vertebrates.)
- Lahontan, glacial lake, discussion of .....K, 1, pp 504-529
- Lake basin, Tertiary, at Florissant, Colorado.....H, Ann 12, 1, pp 271-293
- Lake Fork, Colorado, physical features near .....W, 1876, pp 93-95
- Lake Range, Nevada, geology of.....K, 11, pp 814-816
- granite rocks of .....K, 1, pp 96-97
- Lakes, elevation of.....H, Misc 1, p 46;  
H, Misc 1 (3d ed), p 29; H, Misc 1 (4th ed),  
pp 141-144; W, Uncl 16, pp 172-180
- Lakes, ancient, of western America, deposits and drainage of...H, Ann 4, pp 329-339
- Lakes, glacial, of Colorado, central .....W, 111, pp 453-471
- of Fortieth Parallel region.....K, 1, pp 488-529
- Lakes, Quaternary, of California, southeastern .....W, 1876, pp 177-179
- Lakes, Tertiary, of Great Basin .....K, 1, pp 439-458
- Land grants in aid of internal improvements.....AL, pp 165-182
- Land sculpture in Utah, Henry Mountains.....HM, pp 99-150
- Land system needed for arid region .....AL, pp 25-45
- Langford (N. P.), Report on resources of Snake River Valley...H, Ann 6, pp 86-91
- Language and utensils of modern Utes .....H, Bull, vol 11, No 1, pp 71-76
- (See, also, Ethnology and archæology.)
- Lanius ludovicianus excubitorides*, osteology of...H, Bull, vol VI, No 2, pp 351-359
- (See, also, Vertebrates.)
- Lapidarian sculptures in the Old World and America, observations on cup-  
shaped and .....Eth, v
- (See, also, Ethnology and archæology.)
- Laramie group, age, conditions of deposition, etc., of.....H, Ann 11, pp 259-265
- flora of .....H, Mon VIII, pp 109-126
- invertebrate fossils of .....H, Ann 12, 1, pp 49-103
- from Colorado, Bijou Creek.....H, Ann 11, pp 190-197
- Crow Creek Valley.....H, Ann 11, pp 165-175
- Danforth Hills.....H, Ann 11, pp 211-215
- Yampa Valley .....H, Ann 11, pp 207-211
- from Wyoming, Bear River Valley.....H, Ann 11, pp 241-248
- Bitter Creek Valley .....H, Ann, 11 pp 215-224
- Point of Rocks station, list of.....H, Ann 11, p 216
- Rock Springs, list of.....H, Ann 11, p 215
- geographic distribution of, table showing .....H, Ann 11, p 255
- list of.....H, Bull, vol 11, No 3, p 610
- new species of, descriptions of.....H, Bull, vol 11, No 3, pp 707-719
- molluscan species of, distribution of .....H, Bull, vol 11, No 3, pp 721-724
- of Colorado, northwestern .....H, Ann 10, pp 33-34
- south-central and New Mexico, north-central .....W, 111, Supp, pp 102-130
- Spanish Peaks region .....W, 1879, pp 277-279
- White River district.....H, Ann 10, pp 77-78
- of Fortieth Parallel region .....K, 1, pp 331-339, 350-357
- of New Mexico, north-central, and Colorado, south-central.....W, 111,  
Supp, pp 102-130
- of Utah, Bear River region .....H, Ann 11, pp 629-632
- White River district.....H, Ann 10, pp 77-78
- of Wyoming, Green River region.....H, Ann 11, pp 629-632
- Rawlins, vicinity of .....H, Ann 11, pp 124-127
- Bull. 222-04-39

- Laramie group, of Wyoming, western, and adjacent regions ..... H, Bull, vol v, No 2, pp 195-200  
 of Wyoming, Wind River Range, vicinity of ..... H, Ann 11, p 88  
 relations of ..... W, III, Supp, pp 131-158  
 remarks on ..... H, Bull, vol iv, No 4, pp 865-876
- Laramie Hills, geology of ..... K, II, pp 7-26  
 physical aspects of ..... K, II, pp 4-7
- Laramie Plains, Wyoming, agriculture on ..... H, Ann 4, pp 220-223  
 geology of ..... K, II, pp 73-93; H, Ann 4, pp 121-133
- Laramie region, Wyoming, geology of .. LOR, 1868, pp 235-236; H, Ann 2, pp 81-83
- Las Animas mining district, Colorado, notes on ..... W, 1879, p 196
- Las Animas River, New Mexico, ruins along ..... W, VIII, pp 347-350
- Las Vegas, New Mexico, astronomical determinations at ..... W, II, pp 385-401
- Lassen Peak region, California, topography, geology, etc., of ... W, 1879, pp 209-214
- Le Conte (J. L.), Coleoptera of the alpine regions of the Rocky Mountains .. H, Bull, vol iv, No 2, pp 437-480; H, Bull, vol v, No 3, pp 499-520  
 new species of Coleoptera from New Mexico, Colorado, and California .. W, 1876, pp 296-300
- Lead Creek, Wyoming, geology near ..... H, Ann 11, p 527
- Leeches collected in Colorado, list of ..... H, Ann 7, p 623  
 (See, also, Invertebrates.)
- Leeches, fresh-water, collected in portions of Nevada, Utah, Colorado, New Mexico, and Arizona ..... W, v, pp 955-967  
 (See, also, Invertebrates.)
- Leidy (J.), Contributions to the extinct vertebrate fauna of the western Territories ..... H, Mon I  
 fresh-water Rhizopods of North America ..... H, Mon XII  
 notice of some worms collected near Yellowstone River in 1871 ..... H, Ann 5, pp 381-382  
 on remains of primitive art in the Bridger Basin of southern Wyoming. H, Ann 6, pp 651-653  
 on the fossil vertebrates of the early Tertiary formation of Wyoming .. H, Ann 5, pp 353-372  
 report on the vertebrate fossils of the Tertiary formations of the West. H, Ann 4, pp 340-370
- Leidy, Mount, Wyoming, geology near ..... H, Ann 11, pp 456-461
- Lepidoptera collected in Montana in 1874, discussion of ..... H, Bull, vol iv, No 2, pp 513-517  
 (See, also, Invertebrates.)
- Lesquereux (L.), Cretaceous flora of the western Territories ..... H, Mon VI  
 Cretaceous and Tertiary floras of the western Territories ..... H, Mon VIII  
 enumeration and description of the fossil plants, from the specimens obtained in the explorations of Dr. F. V. Hayden, 1870 and 1871 ..... H, Ann 5, pp 283-303  
 enumerations, with descriptions, of some Tertiary fossil plants, from specimens procured in the explorations of Dr. F. V. Hayden in 1870 ..... H, Ann 5, Supp
- Lignitic formation and fossil flora of Rocky Mountain region ..... H, Ann 6, pp 317-427
- Lignitic formation and its fossil flora ..... H, Ann 7, pp 365-425
- new species of fossil plants from the Cretaceous formation of the Dakota group ..... H, Bull, vol I, ser 2, No 5, pp 391-400
- on some new species of fossil plants from the Lignitic formations ..... H, Bull, vol I, ser 2, No 5, pp 363-389

- Lesquereux (L.), on the fossil plants of the Cretaceous and Tertiary formations  
of Kansas and Nebraska.....H, Ann 4, pp 370-385  
on the general characters and relation of the flora of the Dakota group.  
H, Bull, vol 1, ser 1, No 2, pp 52-62  
on the Tertiary flora of the North American Lignitic considered as evidence  
of the age of the formation.....H, Ann 8, pp 275-315  
remarks on specimens of Cretaceous and Tertiary plants secured by the  
Survey in 1878, with a list of species hitherto described...H, Ann 10,  
pp 481-520  
review of the Cretaceous flora of North America.....H, Ann 8, pp 316-365  
review of the fossil flora of North America.....H, Bull,  
vol 1, ser 2, No 5, pp 233-248  
Tertiary flora of North America.....II, Ann 5, pp 304-318  
Tertiary flora of the western Territories.....H, Mon VII  
Leucite rock, analysis of, from Wyoming, Green River Basin.....K, II, p 237  
of Wyoming, Leucite Hills, microscopic petrography of.....K, VI, pp 259-261  
thin section of, from Wyoming, Leucite Hills.....K, VI, pl 5  
Leucitophyrite, analysis of, from Wyoming, Leucite Hills.....H, Ann 11, p 135  
Leucosticte, monograph of.....H, Bull, vol 1, ser 2, No 2, pp 51-82  
(See, also, Vertebrates.)  
Leucosticte tephrocotis, sexual, individual, and geographical variation in..H, Bull,  
vol II, No 4, pp 345-350  
(See, also, Vertebrates.)  
Lewis and Clarke, travels of, account of publications relating to, with a com-  
mentary on the zoological results of their expedition.....H, Bull,  
vol 1, ser 2, No 6, pp 417-444  
Lignite, analysis of, from Colorado, Boulder, Marshall mine.....K, III, p 483  
analysis of, from Colorado, South Boulder Creek.....H, Ann 3,  
p 94; H, Ann 1-3, p 194  
deposits of, in the upper Missouri region.....H, Mon IX, pp xlvii-lxi  
formation of.....H, Ann 6, pp 350-358  
of Colorado, age of.....W, III, pp 404-410  
Lignitic formation, age of.....H, Ann 7, pp 367-379  
age of, as determined by fossil plants.....H, Mon VIII, pp 309-355  
exposures, study, etc., of.....H, Ann 8, pp 19-33  
of Colorado.....H, Ann 8, pp 28-35  
eastern, and portions of Wyoming...H, Bull, vol 1, ser 2, No 5, pp 401-411  
front range, east of.....H, Ann 7, pp 106-110  
Middle Park.....H, Ann 7, pp 156-157  
of North America, distribution, age, stratigraphy, etc., of..H, Mon VII, pp 3-31  
- Tertiary flora of, considered as evidence of the age of the formations.  
H, Ann 8, pp 275-315  
of Rocky Mountain region.....H, Ann 6, pp 317-427  
plants of, some new species of.....H, Bull, vol 1, ser 2, No 5, pp 363-389  
(See, also, Fort Union group.)  
Lignitic formation and its fossil flora.....H, Ann 7, pp 365-425  
Lilawat language, vocabulary of.....Eth, I, pp 268-283  
(See, also, Ethnology and archaeology.)  
Limestone, analysis of, from Colorado.....K, II, p 39  
analysis of, from Colorado, Browns Park.....K, II, p 274  
from Colorado, Green River.....K, I, p 542  
North Park.....K, I, p 542; K, II, pp 112-129  
from Nevada, Carson River, vicinity of.....K, I, p 542

- Limestone, analysis of, from Nevada, Clover Peak Range ..... K, I, p 542  
 analysis of, from Nevada, Cottonwood Canyon, vicinity of ..... K, II, p 723  
 from Nevada, East Humboldt Range ..... K, I, p 542; K, II, p 530  
   Fossil Hill ..... K, I, p 542; K, II, p 767  
   Humboldt Mountains ..... K, I, p 542  
   Kawsoh Mountains ..... K, II, p 773  
   Kinsley district ..... K, I, p 110  
   Maggie Creek Gap ..... K, I, p 542  
   Pequot Range ..... K, I, p 542  
   Pine Valley ..... K, II, p 563  
   Pyramid Lake ..... K, I, p 110  
   Star Canyon ..... K, II, p 723  
   Tenabo Peak ..... K, I, p 542; K, II, p 572  
   Truckee region ..... K, II, p 821  
   White Pine district ..... K, III, p 413  
   White Pine Mountains ..... K, I, p 542  
   Wrights Canyon ..... K, I, p 542  
 from Utah, Bear River, vicinity of ..... K, I, p 542  
   Brush Creek ..... K, I, p 542  
   City Creek ..... K, II, p 376  
   Cottonwood Canyon, vicinity of ..... K, I, p 542  
   Duchesne Fork ..... K, II, p 304  
   Uinta Mountains ..... K, I, p 542  
   Ute Peak ..... K, II, p 411  
   Wasatch Range ..... K, II, p 373  
   Weber Canyon ..... K, II, p 389  
 from Wyoming, Henrys Fork ..... K, I, p 542  
   Laramie Plains ..... K, I, p 542  
   Red Butte ..... K, I, p 542; K, II, p 78
- Lincoln, Mount, Colorado, meteorological observations at ..... H, Misc 6, pp 22-34
- Lincoln Valley, Idaho, geology of ..... H, Ann 11, pp 330-335
- Lionite, analysis of, from Colorado, Magnolia district, Mountain Lion mine ..... H, Ann 10, p 146
- Lithology and mineralogy of portions of Nevada and California.. W, 1878, pp 184-185
- Lithophane, descriptions of new Noctuidæ and ..... H, Bull, vol v, No 2, pp 201-208  
 (See, also, Invertebrates.)
- Little Book Cliffs, Colorado, geology of ..... H, Ann 10, pp 176-177
- Little Cedar Mountains, Nevada, geology of ..... K, II, pp 512-514
- Little Colorado River, Arizona, geology between Camp Apache and ..... W, III, pp 215-218  
 geology between Verde River and ..... W, III, pp 209-215
- Little Snake River, Colorado, geology of valley of ..... K, II, pp 187-189  
 geology near ..... K, II, pp 219-222
- Lockwood (D. W.), reports of ..... W, 1869, pp 62-71; W, 1871, pp 62-76
- Locust, Rocky Mountain, character, anatomy, enemies, destruction, etc., of ..... H, Uncl 14, pp 1-476  
 distribution, habits, etc., of ..... H, Ann 9, pp 589-693  
 natural history of ..... H, Uncl 12  
 report on, and other insects injuring or likely to injure field and garden  
   crops in the Western States and Territories ..... H, Ann 9, pp 589-809  
   destruction of young ..... H, Uncl 9; H, Uncl 11
- Lodes and veins, formation of, search for, etc ..... H, Ann 7, pp 278-280
- Lodi mining district, Nevada, description of ..... W, 1877, pp 1270-1271
- Lodore Canyon, Utah, geology near ..... K, II, pp 288-290



- Lodore group of Uinta Mountains.....UM, p. 147
- Loess, analysis of, from Germany, Rhine ....H, Ann 8, p 246; H, Uncl 1, p 12  
 analysis of, from Missouri, Hannibal .....H, Ann 8, p 246  
     from Nebraska, Loup River.....II, Ann 8, p 246  
     Omaha, vicinity of .....H, Ann 8, p 246  
     Kearney, vicinity of.....H, Ann 8, p 246  
     Sutton.....H, Ann 8, p 246  
     in Nebraska, origin, scenery, age, etc., of.....H, Ann 8, pp 245-255
- Loew (O.), agricultural resources of northern New Mexico and southern Colorado.....W, 1875, pp 129-139  
 alkaline lakes, thermal springs, mineral springs, and brackish waters of  
     southern California and adjacent country .....W, 1876, pp 188-199  
 geographical distribution of vegetation in the Mohave Desert..W, 1876,  
     pp 222-224  
 geological and mineralogical character of southeastern California and  
     adjacent regions.....W, 1876, pp 173-188  
 geological and mineralogical report on portions of Colorado and New  
     Mexico .....W, 1875, pp 97-116  
 mineralogical, agricultural, and chemical conditions observed in portions  
     of Colorado, New Mexico, and Arizona in 1873....W, III, pp 569-661  
 notes upon ethnology of southern California and adjacent regions.....W, 1876,  
     pp 321-327  
 physical and agricultural features of southern California, and especially  
     of the Mohave Desert .....W, 1876, pp 214-222  
 physiological effects of a very hot climate .....W, 1876, pp 328-330  
 pueblo of Acoma.....W, VII, pp 325-326  
 ruins in New Mexico .....W, VII, pp 337-345; W, 1875, pp 174-178
- Lone mining district, New Mexico, notes on.....W, 1879, p 192
- Lone Mountain district, Nevada, notes on.....W, 1871, p 35
- Lone Pine district, California, notes on.....W, 1871, p 50
- Lone Valley mining district, California, notes on.....W, 1879, p 192
- Logarithm, traverse, and altitude tables .....W, Uncl 11
- Longitude determinations in southern and southeastern Nevada..W, 1869, pp 30-35
- Lookout district, California, notes on.....W, 1876, pp 67-68
- Los Angeles, California, geology of vicinity of.....W, 1876, pp 158-159
- Los Cerillos mines, New Mexico, notes on.....W, 1879, p 197
- Loup Fork group, Canidae of .....H, Bull, vol VI, No 2, pp 387-390  
 occurrence and character of .....H, Mon III, pp 16-19  
 of Colorado, vertebrates of.....H, Ann 7, pp 518-532  
 of New Mexico, Rio Grande Valley .....W, IV, pp 20-25  
     vertebrates of .....W, IV, pt II, pp 283-365
- Ludlow (H. H.), report of.....W, 1879, pp 261-265
- Lyle (D. A.), report of .....W, 1871, pp 76-90
- Macomb (M. M.), report of.....W, 1877, pp 1278-1284; W, 1878, pp 139-145;  
     W, 1879, pp 253-261; W, 1881; W, 1882; W, 1883  
     tables of geographic positions, azimuths, and distances .....W, Uncl 16
- McCauley (C. A. H.), notes on the ornithology of the region about the source  
     of the Red River of Texas .....H, Bull, vol III, No 3, pp 655-695
- McChesney (C. E.), notes on the birds of Fort Sisseton, South Dakota .....H, Bull,  
     vol V, No 1, pp 71-103  
     notes on the mammals of Fort Sisseton, South Dakota.....H, Bull,  
     vol IV, No 1, pp 201-218
- McCoy Creek, Idaho, geology near .....H, Ann 11, pp 391-402
- Madison River, Montana, geology along .....H, Ann 6, pp 160-167

- Madison Valley, Montana, explorations and geology of ..... H, Ann 6, pp 55-66
- Malade Range and Valley, Idaho and Utah, geology of ..... H, Ann 11, pp 606-609
- Mallery (G.), a calendar of the Dakota Nation ..... H, Bull, vol III, No 1, pp 3-25
- Mallophaga, descriptions of new species of ..... H, Ann 6, pp 731-734  
(See, also, Invertebrates.)
- Mammals collected in California in 1875 ..... W, 1876, pp 305-312
- collected in Idaho, Wyoming, and Utah in 1872 ..... H, Ann 6, pp 661-669
- in Nevada, Utah, California, Colorado, New Mexico, and Arizona,  
1871-74, report on ..... W, v, pp 35-129
- in Wyoming, list of ..... H, Ann 4, pp 461-462
- geographical distribution of ..... H, Bull, vol IV, No 2, pp 313-377
- geographical variation among North American, especially in respect to  
size ..... H, Bull, vol II, No 4, pp 308-344
- of Fort Sisseton, South Dakota ..... H, Bull, vol IV, No 1, pp 201-218
- of western United States, geographical distribution and variation in ..... W, v,  
pp 23-34
- synopsis of insectivorous ..... H, Bull, vol I, ser 2, No 2, pp 91-120  
(See, also, Vertebrates.)
- Mammals, American insectivorous, notes on ..... H, Bull, vol III, No 3, pp 631-653  
(See, also, Vertebrates.)
- Mammoth mining district, Nevada, description of ..... W, 1877, pp 1269-1270
- Mancos River, Colorado, cliff houses and ruins on ..... H, Ann 10, pp 391-399;  
H, Bull, vol II, No 1, pp 10-18
- ruins, ancient, in valley of ..... H, Bull, vol I, sec 2, No. 1, pp 17-30
- Map, geologic, of Arizona, northeastern, portions of Colorado, New Mexico,  
Utah and ..... H, Atlas, sheet xv  
(See, also, p 63 of this bulletin.)
- of Colorado ..... H, Atlas, sheet IV; H, Ann 10, at end.
- Arkansas Valley, Upper, showing moraines ..... H, Ann 8, p 48
- central ..... H, Atlas, sheet xiii; see, also, p 36 of this bulletin
- Central City mining region ..... H, Ann 7, p 280
- Colorado Springs and vicinity ..... H, Ann 8, p 40
- Eagle River, vicinity of ..... H, Ann 8, p 84
- Elk Mountains ..... H, Ann 8, p 73
- Florissant, Tertiary lake basin at ..... H, Mon XIII, frontispiece;  
H, Ann 12, I, p 293; H, Bull, vol VI, No 2, p 300
- Front Range, eastern slope, from Big Thompson Creek to South  
Platte River ..... H, Ann 7, p 147
- Grand River Valley ..... H, Ann 10, p 176
- Hot Springs ..... H, Ann 7, p 163
- showing moraines ..... H, Ann 7, p 159
- Grand and Gunnison rivers, basaltic plateaus between ..... H, Ann 8, p 174
- Green River Basin ..... K, Atlas
- showing orographic disturbances ..... K, I, p 760
- Gunnison region, showing areas of rhyolite and breccia ..... H, Ann 8, p 170
- Gunnison River ..... H, Ann 8, p 100
- south side of ..... H, Ann 9, p 38
- vicinity of, showing areas of porphyritic trachyte ..... H, Ann 8, p 166
- Middle Park ..... H, Ann 7, p 155
- Mount Lincoln mining region ..... H, Ann 7, p 302
- north central ..... H, Atlas, sheet xii
- northwestern, portion of ..... H, Ann 10, p 60
- northeastern Utah, and ..... H, Atlas, sheet xi
- Park View Peak and vicinity, showing trachyte dikes ..... H, Ann 7, p 174

|   |   |
|---|---|
| Map, geologic, of Colorado, Purgatory River region.....                             | W, III, Supp, pocket                          |
| of Colorado, Rio Grande region.....   | W, III, Supp, pocket                          |
| Rocky Mountains in Wyoming and.....   | K, Atlas                                      |
| showing orographic disturbances.....  | K, I, p 760                                   |
| San Miguel Plateau.....   | H, Ann 10, p 165                              |
| showing general orographic features.....  | H, Ann 9, p 242                               |
| south-central, portion of New Mexico and.....                                       | H, Atlas, sheet xvi                           |
| southwestern portions of New Mexico, Arizona, Utah, and.....                        | H, Atlas, sheet xv                            |
| Spanish Peaks region.....   | H, Ann 9, p 132                               |
| Trinidad region.....  | H, Ann 9, p 196                               |
| Unaweep Canyon.....   | H, Ann 9, p 58                                |
| Weeminuche glacier.....   | H, Ann 9, p 216                               |
| western part of Utah and.....   | H, Atlas, sheet xiv                           |
| (See, also, p 63 of this bulletin.)   |   |
| of Dakota and Nebraska.....   | H, Uncl 1, at end                             |
| of Fortieth Parallel area, Archean and granitic exposures.....                      | K, I, p 126                                   |
| Archean, granitic, and Paleozoic rocks.....   | K, I, p 248                                   |
| Mesozoic and pre-Mesozoic rocks.....  | K, I, p 356                                   |
| Tertiary rocks.....   | K, I, p 458                                   |
| volcanic rocks.....   | K, I, p 676                                   |
| of Idaho, portions of Utah, Wyoming, and.....                                       | H, Ann 12, map case                           |
| Snake River, sources of. (See p 36 of this bulletin.)                               |   |
| of Montana, Gallatin, Madison, and Yellowstone basins. (See p 36 of this bulletin.) |   |
| of Nebraska and Dakota.....   | H, Uncl 1, at end                             |
| of Nevada, Lake Bonneville. (See p 65 of this bulletin.)                            |   |
| Lake Lahontan.....  | K, I, p 528                                   |
| Toyabe Mountains.....   | K, III, Atlas, pl xiii                        |
| Washoe mining district.....   | K, III, Atlas, pl ii                          |
| White Pine district.....  | K, III, Atlas, pl xiv                         |
| (See, also, p 63 of this bulletin.)   |   |
| of Nevada Basin.....  | K, Atlas                                      |
| of Nevada Desert, showing orographic disturbances.....                              | K, I, p 760                                   |
| of Nevada Plateau.....  | K, Atlas                                      |
| showing orographic disturbances.....  | K, I, p 760                                   |
| of New Mexico, Canadian River and Cimarron Range, vicinity of.....                  | W, III, Supp, pocket                          |
| Canadian and Mora rivers, vicinity of.....  | W, III, Supp, pocket                          |
| Galisteo Creek region.....  | W, III, Supp, pocket                          |
| northern portion of Colorado and.....   | H, Atlas, sheet xvi                           |
| northwestern portions of Colorado, Utah, Arizona, and.....                          | H, Atlas, sheet xv                            |
| Rio Grande, upper region of.....  | W, III, Supp, pocket                          |
| Taos Valley and Upper Pecos region.....   | W, III, Supp, pocket                          |
| Zuni Range, vicinity of.....  | W, III, p 561                                 |
| (See, also, p 63 of this bulletin.)   |   |
| of South Dakota, Black Hills.....   | BH, Atlas                                     |
| of Utah, Book Cliffs and Grand River Valley.....                                    | H, Ann 10, p 176                              |
| eastern part of Colorado and.....   | H, Atlas, sheet xiv                           |
| Henry Mountains.....  | HM, at end                                    |
| high plateaus.....  | HP, Atlas                                     |
| Lake Bonneville.....  | K, I, p 528; see, also, p 65 of this bulletin |
| northeastern, northwestern Colorado and.....  | H, Atlas, sheet xi                            |
| portions of Colorado, New Mexico, Arizona, and.....                                 | H, Atlas, sheet xv                            |
| of Idaho, Wyoming, and.....   | H, Ann 12, map case                           |



- Map, topographic, of Colorado, portions of Utah, New Mexico, Arizona, and,  
 showing location of ancient ruins and modern pueblos....H, Ann 10, p 453
- of Colorado, Rocky Mountains in Wyoming and.....K, Atlas
- San Juan region .....H, Bull, vol I, ser 2, No 3, p 145;  
 see, also, p 36 of this bulletin
- San Luis Valley .....H, Ann 9, p 148
- Sierra La Sal.....H, Ann 9, p 60
- South Park region.....H, Ann 9, p 440
- south-central, northern New Mexico, and.....H, Atlas, sheet x
- southwestern, parts of New Mexico, Arizona, Utah, and...H, Atlas, sheet ix
- ancient ruins in, showing location of.....H, Bull, vol II, No 1, p 36
- Spanish Peaks region .....H, Ann 10, p 306; H, Bull, vol III, No 3, p 728
- Twin Lakes .....W, III, p 442; H, Ann 7, p 52
- Uncompahgre Plateau .....H, Ann 9, p 42
- western part of Utah and.....H, Atlas, sheet viii
- Yampa River region.....H, Ann 10, p 378
- (See, also, pp 61, 64 of this bulletin.)
- of Cordilleran region.....K, Atlas
- of Great Basin .....K, v, p 1
- of Iceland, southern Geyser areas.....H, Ann 12, II, p 304
- of Idaho, Bear Lake region .....H, Ann 11, p 588
- Blackfoot Basin .....H, Ann 11, p 564
- Cliff Lake .....H, Ann 6, p 61
- Henry Lake, vicinity of .....H, Ann 6, p 56
- portions of Utah, Wyoming, and .....H, Ann 12, map case
- of Wyoming, Montana, and. (See p 36 of this bulletin.)
- of Wyoming, Utah, and .....H, Ann 11,  
 p 324; H, Ann 12, I, p 270; see, also, p 36 of this bulletin
- of Wyoming, Utah, and (land classification).....H, Ann 12, map case
- Portneuf region .....H, Ann 11, p 566
- Snake River, sources of ....H, Ann 6, p 255; see, also, p 37 of this bulletin
- soda springs on Bear River.....H, Ann 11, p 590
- (See, also, pp 61, 64 of this bulletin.)
- of Montana, Clark Fork, vicinity of.....H, Ann 6, p 47
- Madison, Gallatin, and Upper Yellowstone basins. (See p 36 of this  
 bulletin.)
- portions of Wyoming, Idaho, and. (See p 37 of this bulletin.)
- of Nevada.....H, Bull, vol VI, No 2, p 256
- Lake Bonneville. (See p 65 of this bulletin.)
- Lake Tahoe region. (See p 65 of this bulletin.)
- portions of California, Arizona, and.....W, 1871, p 96
- of Utah, Arizona, and.....W, Uncl 2, at end
- southeastern. (See p 65 of this bulletin.)
- southwestern, and Colorado, southern .....W, 1876, p 72
- Washoe district .....W, 1879, p 188; see, also, p 65 of this bulletin
- (See, also, pp 61, 64 of this bulletin.)
- of Nevada Basin.....K, Atlas
- of Nevada Plateau .....K, Atlas
- of New Mexico, northern, and Colorado, south-central .....H, Atlas, sheet x
- northwestern, parts of Colorado, Utah, Arizona, and .....H, Atlas, sheet ix
- portions of Colorado, Utah, Arizona, and, showing locations of ancient  
 ruins and modern pueblos .....H, Ann 10,  
 p 453; H, Bull, vol II, No 1, p 46
- southwestern. (See p 65 of this bulletin.)

- Map, topographic, of New Mexico, Portolita Peak..... W, 1, p 356  
 of New Mexico. (See, also, pp 62, 64 of this bulletin.)  
 of New Zealand, geyser and hot spring areas..... H, Ann 12, II, p 313  
 of North America, zoo-geographical ..... H, Ann 12, I, p 593  
 of Oregon, Klamath River, headwaters of ..... Eth, II, pt 1, frontispiece  
 (See, also, p 62 of this bulletin.)  
 of South Dakota, Black Hills ..... HP, Atlas  
 of Texas, El Paso, vicinity of ..... W, 1879, p 81  
 of United States..... W, I, p 436;  
     H, Bull, vol II, No 3, p 226; H, Misc 1 (4th ed), p 164  
     showing distribution of Hessian fly, wheat midge, chinch bug, north-  
       ern army worm, cotton army worm, joint worm..... H, Ann 9, p 810  
     hot-spring localities..... W, III, p 148  
     land grants ..... AL, pocket  
     rainfall, amount of..... AL, pocket  
     Rocky Mountain locust, distribution of..... H, Uncl 14, frontispiece  
     migration of, in 1874 and 1876..... H, Uncl 14, p 152  
     surveys, progress of ..... W, 1879, p 140  
 of Utah ..... HP, Atlas  
     Bear Lake region..... H, Ann 11, p 588  
     Beaver Range and vicinity..... W, 1872, p 10  
     Henry Mountains..... HM, at end  
     high plateaus ..... HP, Atlas  
     Lake Bonneville. (See p 65 of this bulletin.)  
     Ogden and vicinity..... W, II, p 471  
     Piöche..... W, III, p 258  
     portion of Arizona, Nevada, and ..... W Uncl 2, at end  
       of Colorado, Arizona, New Mexico, and, showing location of ancient  
       ruins ..... H, Ann 10, p 453; H, Bull, vol. II, No 1, p 46  
       showing locations of modern pueblos ..... H, Ann 10, p 453  
     of Colorado, northwestern, and..... H, Atlas, sheet v  
     of Colorado, western, and..... H, Atlas, sheet viii  
     of Idaho, Wyoming, and ..... H, Ann 12,  
       I, p 270; see, also, p 36 of this bulletin  
       showing land classification ..... H, Ann 12, map case  
     Salt Lake Basin ..... K, Atlas  
     showing irrigable and timber lands ..... AL, pocket  
     Sierra La Sal ..... H, Ann 9, p 60  
     southeastern..... HP, Atlas  
       parts of Colorado, New Mexico, Arizona, and..... H, Atlas, sheet ix  
     (See, also, pp 62, 65 of this bulletin.)  
 of Washington, showing distribution of Indian tribes ..... Eth, I, pocket  
 of western States and Territories..... K, III,  
     Atlas, pl 1; W, 1872, p 43; W, 1873, p 12; W, 1874, p 130;  
     W, 1875, p 22; W, 1876, p 36; W, 1877, p 1244; W, 1878,  
     p 38; W, 1880, p 40; W, 1881, p 2808; W, 1882, p 2824  
     showing public land, Indian reservations, areas surveyed, etc... W, I, p 412  
 of Wyoming, Bear River region ..... H, Ann 11, p 588  
     central..... H, Ann 12, map case  
     Green River Basin ..... K, Atlas  
       west side of northern portion of..... H, Ann 11, p 528  
       of southern portion of ..... H, Ann 11, p 530  
     Madison, Yellowstone, and Gallatin basins. (See p 37 of this bulletin.)

- Map, topographic, of Wyoming, portions of Idaho and.....H, Ann 11, p 324  
of Wyoming, portions of Montana, Idaho, and. (See p 37 of this bulletin.)  
portions of Utah, Idaho, and .....H, Ann 12,  
I, p 270; see, also, p 37 of this bulletin  
showing land classification .....H, Ann 12, map case  
Rocky Mountains in Colorado and.....K, Atlas  
Shoshone Lake .....H, Ann 6, p 244  
Snake River, sources of.....H, Ann 6, p 255; see, also, p 37 of this bulletin  
(See, also, pp 62, 65 of this bulletin.)  
of Yellowstone Park .....H, Ann 5,  
p 162; H, Ann 12, II, p 490; see, also, p 37 of this bulletin  
Crater Hill, springs at .....H, Ann 12, II, p 84  
Egeria Springs, Firehole River.....H, Ann 12,  
II, p 186; see, also, p 37 of this bulletin  
Gibbon Geyser Basin...H, Ann 12, II, p 132; see, also, p 37 of this bulletin  
Lower Geyser Basin .....H, Ann 5,  
p 104; H, Ann 12, II, p 178; see, also, p 37 of this bulletin  
Mammoth Hot Springs...H, Ann 12, II, p 84; see, also, p 37 of this bulletin  
Mud Volcanoes, springs at .....H, Ann 12, II, p 106  
Rustic Geyser group.....H, Ann 12, II, p 300  
Shoshone Geyser Basin...H, Ann 12, II, p 278; see, also, p 37 of this bulletin  
showing distribution of hot springs.....H, Ann 12, p 67  
Upper Geyser Basin.....H, Ann 5,  
p 112; H, Ann 12, II, p 240; see, also, p 37 of this bulletin  
White Mountain Hot Springs .....H, Ann 5, p 64  
Witch Creek, hot springs on.....H, Ann 12,  
II, p 290; see also p 37 of this bulletin.  
Yellowstone Lake.....H, Ann 5,  
p 101; see also p 37 of this bulletin.
- Marcou (J.), notes upon the first discoveries of California and the origin of its  
name.....W, 1878, pp 226-229  
report on the geology of a portion of southern California...W, 1876, pp 158-172
- Markágunt Plateau, Utah, geology of .....HP, pp 188-210
- Marl, analysis of, from Missouri, Hannibal.....H, Uncl 1, p. 12  
analysis of, from Wyoming, Turtle Bluffs.....K, II, p 247
- Marsh (O. C.), *Odontornithes*, monograph on .....K, VII
- Marsh Creek, Idaho, geology near.....H, Ann 11, pp 565-567
- Marsh Creek, Wyoming, geology near.....H, Ann 11, pp 528-529
- Marshall (W. L.), report of.....W, 1872, pp 47-48;  
W, 1874, pp 7-10; W, 1875, pp 37-40; W, 1876, pp 80-109  
report on meteorology and hypsometry .....W, 1876, pp 150-152  
results of barometric hypsometry, 1871-1875.....W, II, pp 493-566
- Marshall (W. L.) and Hoxie (R. L.), meteorological observations, instruc-  
tions for taking .....W, Uncl 10; W, Uncl 12
- Martinez district, Arizona, notes on.....W, 1871, p 56
- Marvine (A. R.), Gold Hill mining region; its position and general geology  
H, Ann 7, pp 685-687  
report on geology of Middle Park, Colorado.....H, Ann 7, pp 83-192  
report on geology of route from St. George, Utah, to Gila River, Arizona  
W, III, pp 189-225
- Marvine, Mount, Utah, geology of .....HP, p 269
- Maryatt (W. W.), report of .....W, 1872, pp 45-47
- Maryatt (W. W.), Safford (T. H.), Kampf (F.), and Clark (J. H.), astronom-  
ical determinations in Nevada, Utah, Montana, Wyoming,  
Nebraska, Colorado, and New Mexico, 1872-1874 ....W, II, pp 1-491

- Matthews (W.), ethnography and philology of the Hidatsa Indians.....H, Misc 7  
 Mayas, graphic system and ancient records of.....Eth, v, pp xvii-xxxvii  
 (See, also, Ethnology and archaeology.)
- Maynard district, Arizona, notes on.....W, 1871, p 54
- Meadow Lake district, California, notes on.....W, 1878, pp 81-82
- Medicine Bow Range, Colorado-Wyoming, Archean rocks of.....K, i, pp 28-36  
 geology of .....K, ii, pp 94-111  
 Paleozoic rocks of.....K, i, p 136
- Medicine Bow River, Wyoming, geology of valley of.....K, ii, pp 142-143
- Meek (F. B.), descriptions and illustrations of fossils from Vancouver and  
 Socia islands; and other northwestern localities.....H, Bull,  
 vol ii, No 4, pp 351-374
- lists of fossil from Utah, with some notes .....K, iii, pp 459-466
- note on some fossils from near the eastern base of the Rocky Mountains...H, Bull,  
 vol i, ser 2, No 1, pp 39-47
- notes on the new genus *Uintacrinus* Grinnell...H, Bull, vol ii, No 4, pp 375-378
- notice of a very large *Goniatic* from eastern Kansas .....H, Bull,  
 vol i, ser 2, No 6, p 445
- paleontology of Fortieth Parallel region .....K, iv, pp 1-197
- preliminary list of the fossils collected by Doctor Hayden's expedition of  
 1871, in Utah and Wyoming Territories, with descriptions of a few  
 new species.....H, Ann 5, pp 373-377
- preliminary paleontological report by .....H, Ann 4, pp 287-318
- preliminary paleontological report, consisting of lists and descriptions of  
 fossils, with remarks on the ages of the rocks in which they  
 were found .....H, Ann 6, pp 429-518
- report on the invertebrate Cretaceous and Tertiary fossils of the Upper  
 Missouri country .....H, Mon ix
- report on the paleontology of Nebraska, with some remarks on the Carbon-  
 iferous rocks of that district. ....H, Uncl 1, pp 83-245
- Melaphyre of Nevada, Virginia Range, microscopic petrography of...K, vi, pp 103-106  
 thin section of, from Nevada, Virginia Range.....K, vi, pl 4
- Mephitinæ, cranial and dental characters of.....H, Bull, vol i, ser 2, No 1, pp 7-15  
 (See, also, Vertebrates.)
- Meridian Ridge, Wyoming, geology of.....H, Ann 11, pp 536-537
- Meridional Valley, Wyoming, geology of .....H, Ann 11, pp 539-540
- Merriam (C. H.), report on mammals and birds collected in 1872.....H, Ann 6,  
 pp 661-715
- Mesa Verde, Colorado, geology of.....H, Ann 9, pp 253-257
- Mesozoic rocks of Colorado, central.....W, iii, pp 378-409  
 of Colorado, Eagle, Grand, and Gunnison rivers .....H, Ann 8, pp 120-139  
 Grand River district.....H, Ann 9, pp 80-92; H, Ann 10, pp 178-181  
 northwestern .....H, Ann 10, pp 26-32  
 of Fortieth Parallel area .....K, i, pp 249-357  
 of Idaho, eastern.....H, Ann 11, pp 621-629  
 eastern, and Wyoming, western.....H, Ann 11, pp 491-497  
 of New Mexico, northern .....W, iv, pt ii, pp 1-25  
 of Utah, Grand River district .....H, Ann 9, pp 80-92; H, Ann 10, pp 178-181  
 of Wyoming, Sweetwater Valley .....H, Ann 11, pp 105-109  
 western .....H, Ann 11, pp 621-629  
 and Idaho, eastern.....H, Ann 11, pp 491-497  
 Wind River Range, vicinity of .....H, Ann 11, pp 80-88  
 (See, also, Cretaceous; Jurassic; Triassic.)
- Mesozoic vertebrata of New Mexico .....W, iv, pt ii, pp 26-36b



- Mesozoic and Cenozoic rocks of Green River region, paleontological characteristics of ..... H, Bull, vol III, No 3, pp 625-629
- Mesozoic and Cenozoic Unionidæ of North America, comparison with living species ..... H, Bull, vol III, No 3, pp 615-624
- Metamorphic rocks of Colorado, central ..... W, III, pp 343-355
- of Colorado, Front Range ..... H, Ann 7, pp 137-144
- San Juan region ..... H, Ann 8, pp 187-192; H, Ann 9, pp 268-276
- Sangre de Cristo Range ..... H, Ann 9, pp 110-113
- of Fortieth Parallel region, character and distribution of ..... K, I, pp 101-107
- of Wyoming, Rawlins Peak, vicinity of ..... H, Ann 11, p 119
- Sweetwater Valley ..... H, Ann 11, pp 98-101
- Wind River Range ..... H, Ann 11, pp 66-70
- Meteorological conditions of Mohave Desert, California ..... W, 1876, pp 152-157
- Meteorological observations in Colorado and Montana in 1873 ..... H, Misc 6
- in Nevada, southern and southeastern ..... W, 1869, pp 50-52
- in Utah, Idaho, and Montana in 1872 ..... H, Misc 2
- in Wyoming ..... H, Ann 4, pp 488-501
- instructions for taking ..... W, Uncl 10; W, Uncl 12
- Meteorology of Great Basin, notes on ..... K, v, pp xvii-xxii
- of Yellowstone region ..... H, Ann 5, pp 501-524
- Meteorology and hypsometry, methods of ..... W, 1875, pp 47-54
- Mexico, springs, thermal, of ..... H, Ann 12, I, p 327
- Mica-schist of Black Hills, petrography of ..... BH, pp 476-483
- thin sections of, from Nevada, Humboldt Range and Spruce Mountain ..... K, VI, pl 2
- Michigan, birds of, annotated list of ..... H, Bull, vol v, No 3, pp 481-497
- Microscopic petrography of Black Hills ..... BH, pp 469-527
- of Fortieth Parallel region ..... K, VI
- Middle Park, Colorado, eruptive mountains near ..... H, Bull, vol III, No 3, pp 552-553
- geology of ..... H, Ann 3, pp 81-86; II, Ann 7, pp 83-192
- topographic features of ..... H, Ann 9, pp 391-398
- Military posts, altitudes of ..... W, Uncl 16, pp 127-128
- Milling and mining in Nevada, western ..... K, III, pp 295-319
- Mimbres silver mining district, New Mexico, notes on ..... W, 1879, p 194
- Mineral Hill district, Nevada, notes on ..... W, 1871, pp 35-36
- Mineral resources of Black Hills ..... BH, pp 223-324
- Mineralogy of Nevada ..... H, Bull, vol IV, No 3, pp 731-745
- Mineralogy and lithology of portions of Nevada and California ..... W, 1878, pp 184-185
- Minerals, catalogue of, collected by A. C. Peale [1872] ..... H, Ann 6, pp 179-182
- of Colorado, catalogue of ..... H, Ann 9, pp 226-235; H, Ann 10, pp 135-159
- South Park district ..... H, Ann 7, pp 267-270
- of Comstock lode ..... K, III, pp 75-76
- of Wyoming, Sweetwater district ..... H, Ann 11, pp 157-158
- Mines and minerals of Colorado and New Mexico ..... H, Ann 3, pp 103-130; H, Ann 1-3, pp 201-228
- Mining in western Territories ..... W, I, pp 179-181
- in Fortieth Parallel region ..... K, III
- Mining and milling in Nevada, western ..... K, III, pp 295-319
- Mining districts in Fortieth Parallel region ..... K, III, pp 1-9
- Minnesota, elevations in ..... H, Misc 1 (3d ed), pp 8-9; H, Misc 1 (4th ed), pp 79-85
- locusts in ..... H, Ann 9, pp 617-621; H, Uncl 14, pp 80-87, App, pp 3-12
- law regarding destruction of ..... H, Uncl 9, pp 11-12
- physical geography and agricultural resources -of Dakota, Nebraska, and ..... H, Ann 6, pp 273-313

- Minot (C. S.), report on the fine anatomy of the locust.....H, Uncl 14, pp 273-279
- Miocene fossils, Canidae and Nimravidae .....H, Bull, vol vi, No 1, pp 165-181
- fauna of Oregon, observations on .....H, Bull, vol v, No 1, pp 55-69
- plants of Western Territories .....H, Mon viii, pp 219-278
- Rodentia of North America, review of.....H, Bull, vol vi, No 2, pp 361-386
- vertebrata of Colorado.....H, Ann 7, pp 461-518
- Miocene rocks of Fortieth Parallel region .....K, i, pp 408-424
- Missouri, elevations in....H, Miscel 1 (3d ed), pp 5-6; H, Miscel 1 (4th ed), pp 85-91
- locusts in.....H, Uncl 14, pp 64-68, App, pp 83-84
- law regarding destruction of.....H, Uncl 9, p 9
- Missouri River, geological sections near headwaters of, notes on .....H, Bull,  
vol ii, No 3, pp 197-209
- Rocky Mountains near, period of elevation of.....H, Uncl 16, pp 9-13
- tributaries of upper.....LOR, 1868, pp 225-229; H, Ann 2, pp 72-76
- Missouri River region, birds of .....H, Miscel 3
- explorations in .....BH, pp 5-21
- Missouri and Yellowstone rivers, geology about headwaters of, sketch of .....H,  
Uncl 16, pp 21-29
- Missouri Valley, geography of .....LOR, 1868, pp 220-229; H, Ann 2, pp 67-76
- geology of .....H, Ann 4, pp 85-188
- Mohave Desert, (California, meteorological conditions of.....W, 1876, pp 152-157
- physical and agricultural features of .....W, 1876, pp 216-219
- vegetation of, geographical distribution of.....W, 1876, pp 222-224
- Mokelumne Valley region, California, reconnaissance in.....W, 1879, pp 254-258
- Mollusca, reports on....H, Ann 4, pp 467-469; H, Bull, vol i, ser 2, No 2, pp 125-142
- (See, also, Invertebrates.)
- Mollusca, alpine, of Colorado .....H, Ann 7, p 542
- (See, also, Invertebrates.)
- Mollusks, terrestrial, collected in Colorado, list of .....H, Ann 7, p 523
- (See, also, Invertebrates.)
- Mollusca, terrestrial and fluviatile, collected in portions of Colorado, Utah,  
New Mexico, and Arizona .....W, v, pp 923-954
- (See, also, Invertebrates.)
- Mollusca fossil, of Colorado, report on.....H, Ann 8, pp 389-410
- of Cretaceous of Colorado.....H, Ann 7, pp 455-456
- of lacustrine deposits of Nebraska, list of .....H, Ann 8, pp 266-269
- of Laramie group, distribution of.....H, Bull, vol iv, No 3, pp 721-724
- of Tertiary of Colorado, Utah, and Wyoming.....H, Ann 12, i, pp 41-48
- (See, also, Invertebrates, fossil.)
- Monell (J.) and Riley (C. V.), notes on the Aphididae of the United States,  
with descriptions of species occurring west of the Mississippi..H, Bull,  
vol v, No 1, pp 1-32
- Monitor district, California, notes on .....W, 1878, pp 87-88
- Monohammas pine, description of.....H, Ann 10, pp 528-531
- (See, also, Plants.)
- Montana, agriculture in .....H, Ann 5, pp 248-269
- astronomical determinations in Wyoming, Nebraska, Colorado, New Mex-  
ico, Nevada, Utah, and.....W, ii, pp 1-491
- birds of Dakota and, along forty-ninth parallel, field notes on.....H, Bull,  
vol iv, No 3, pp 545-661
- Bozeman, astronomical determinations at.....W, ii, pp 371-384
- meteorological observations at.....H, Miscel 2, pp 47-59
- Clark Fork, geology on.....H, Ann 6, pp 46-48
- climate of, notes on .....H, Ann 6, pp 809-812

Montana, elevations in.....H, Bull, vol v, No 3, pp 458;  
H, Misc 1 (3d ed), p 15; H, Misc 1 (4th ed), pp 92-93  
explorations in.....H, Ann 5  
in parts of Idaho, Wyoming, Utah, and, for year 1872.....H, Ann 6  
fishes of Dakota and, collected in 1873 and 1874, report on.....H, Bull,  
vol iv, No 4, pp 777-799  
Fort Ellis, geology between Fort Hall, Idaho, and.....H, Ann 5, pp 27-44  
geology between Gardiner River and.....H, Ann 6, pp 108-125  
Gallatin River, geology near.....H, Ann 5, pp 44-49  
Gallatin Valley and Canyon, geology of.....H, Ann 6, pp 26-28, 76-81  
Gardiner River, geology between Fort Ellis and.....H, Ann 6, pp 108-125  
geological sections near headwaters of Missouri and Yellowstone rivers,  
notes on.....H, Bull, vol ii, No 3, pp 197-209  
Helena, geology between Three Forks and.....H, Ann 6, pp 81-82  
Hemiptera collected in Dakota and, in 1873-74.....H, Bull,  
vol iv, No 2, pp 503-512  
herpetology of Dakota and.....H, Bull, vol iv, No 1, pp 259-291  
Judith River region, geology of.....H, Bull, vol iii, No 3, pp 565-577  
Lepidoptera collected in, in 1874, discussion of.....H, Bull, vol iv, No 2, pp 513-517  
locusts in.....H, Ann 9, pp 623-625;  
H, Uncl 14, pp 92-96, 153-156, App, pp 248-253  
Madison River, geology along.....H, Ann 6, pp 160-167  
meteorological observations in Colorado and.....H, Misc 6  
in Utah, Idaho, and, in 1872.....H, Misc 2  
Missouri River, geologic sections near headwaters of, notes on.....H, Bull,  
vol ii, No 3, pp 197-209  
Missouri and Yellowstone rivers, geology about headwaters of, sketch of.....H,  
Uncl 16, pp 21-29  
Orthoptera collected in Dakota and, in 1873, discussion of.....H, Bull,  
vol iv, No 2, pp 481-501  
plants collected in Dakota and, along forty-ninth parallel, catalogue of.....H, Bull,  
vol iv, No 4, pp 801-830  
collected in Idaho, Utah, Wyoming, and.....H, Ann 6, pp 747-792  
Rock Canyon. (See Spring Canyon.)  
Spring Canyon, geology of.....H, Ann 6, pp 109-115  
temperature at Fort Ellis.....H, Ann 6, p 811  
Three Forks, geology between Helena and.....H, Ann 6, pp 81-82  
Yellowstone River, geologic sections near headwaters of, notes on.....H, Bull,  
vol ii, No 3, pp 197-209  
geology near.....H, Ann 5, pp 51-63, 81-92  
Yellowstone and Missouri rivers, geology about headwaters of, sketch of.....H,  
Uncl 16, pp 21-29  
Montezuma district, Nevada, notes on.....W, 1871, p 46  
Montezuma Range, Nevada, Archean rocks of.....K, i, pp 87-90  
geology of.....K, ii, pp 751-766  
Monument Creek group in Colorado.....H, Ann 8, pp 36-37  
Mopung Hills, Nevada, geology of.....K, ii, pp 733-737  
Mora River region, New Mexico, geology of.....W, iii, Supp, pp 283-312  
Mora Valley, New Mexico, geology of.....H, Ann 3, pp 59-61; H, Ann 1-3, pp 159-161  
Morainal deposits in Colorado, Arkansas Valley.....H, Ann 7, pp 51-57  
in Uinta Mountains.....UM, pp 171-172  
Moraines in Colorado, Arkansas Valley, upper.....H, Ann 8, pp 47-53  
Moreno Valley, New Mexico, geology of, notes on.....H, Bull, vol iii, No 4, pp 289-296  
Morey district, Nevada, notes on.....W, 1871, p 38

- Morgan (L. H.), houses and house life of the American aborigines.....Eth, iv  
 Mormons in Utah and Nevada.....W, i, pp 174-177  
 Morrison (C. C.), notice of the pueblo Pintado and of other ruins in the Chaco  
     Canyon .....W, vii, pp 366-369  
     report of.....W, 1876, pp 136-147; W, 1877, pp 1273-1278; W, 1878, pp 131-139  
 Mortars and pestles from graves in southern California .....W, vii, pp 70-92  
     (See, also, Ethnology and archæology.)  
 Moths, descriptions of new, with partial catalogue of Noctuæ.....H, Bull,  
     vol vi, No 3, pp 563-578  
     new species collected in Maine, with notes on noxious species and remarks  
     on classification.....H, Bull, vol vi, No 3, pp 579-591  
     of Colorado, geographical distribution of.....H, Ann 7, pp 543-559  
     of North America, description of, with a preliminary catalogue of the  
     species of *Iladena* and *Polia*.....H, Bull, vol vi, No 2, pp 257-277  
     (See, also, Invertebrates.)  
 Moth, Cranberry, description of.....H, Ann 10, p 522  
     (See, also, Invertebrates.)  
 Moths, geometrid or Phalenidæ of the United States, monograph on.....H, Mon x  
     (See, also, Invertebrates.)  
 Moths, noctuid, collected in Colorado in 1875, notes on.....H, Bull,  
     vol iii, No 1, pp 115-120  
     (See, also, Invertebrates.)  
 Moths, tineid, collected in Colorado in 1875, notes on.....H, Bull,  
     vol iii, No 1, pp 143-145  
     (See, also, Invertebrates.)  
 Mound builders, houses of.....Eth, iv, pp 198-221  
     (See, also, Ethnology and archæology.)  
 Mounds, ancient, of Dakota.....H, Ann 6, pp 655-658  
     (See, also, Ethnology and archæology.)  
 Mount. See next word of name.  
 Mountains, elevation of.....H, Bull, vol v, No 3, pp 465-469;  
     H, Misc 1, pp 34-35; H, Misc 1 (3d ed.), pp 22-25; H,  
     Misc 1 (4th ed), pp 112-133; W, Uncl 16, pp 129-142  
 Mountains, eruptive, in Colorado, on a peculiar type of.....H, Bull,  
     vol iii, No 3, pp 551-564  
 Mud, analysis of, from California, Colorado River.....W, 1876, p 220  
     analysis of, from Egypt, Nile River.....W, iii, pp 577, 578;  
     W, vi, p 30; W, 1876, p 220  
     from New Mexico, Rio Grande.....W, vi, p 30; W, 1876, p 220  
     Rio Grande del Norte .....W, iii, pp 577, 578  
 Mud, pink, analysis of, from Yellowstone Park.....H, Ann 6, p 146  
 Muddy Valley, Colorado, geology of.....H, Ann 7, pp 178-184  
 Mudge (B. F.), notes on the Tertiary and Cretaceous periods of Kansas..H, Ann 9,  
     pp 277-294; H, Bull, vol ii, No 3, pp 211-221  
 Musci of the southwest .....W, vi, pp 341-351  
     (See, also, Plants.)  
 Musical instruments, of southern California, made of bones.....W, vii, pp 234-238  
     (See, also, Ethnology and archæology.)  
 Mustelidæ, monograph of.....H, Misc 8  
     (See, also, Vertebrates.)  
 Myriopoda of Colorado .....H, Ann 7, p 607  
     (See, also, Invertebrates.)  
 Naas language, vocabulary of.....Eth, i, pp 143-153  
     (See, also, Ethnology and archæology.)

- Nacimiento Desert, New Mexico, geology of.....W, 1875, pp 103-106
- Nasua, character distribution, etc., of.....H, Bull, vol v, No 2, pp 153-174  
(See, also, Vertebrates.)
- Nebraska, astronomical determinations in Colorado, New Mexico, Nevada,  
Utah, Montana, Wyoming, and.....W, II, pp 1-491
- birds of, notes on food of .....H, Uncl 14, App, pp 13-62
- building materials in.....H, Uncl 1, pp 72-79
- coal in...LOR, 1867, pp 134, 137, 142-143, 154-155; H, Ann 1, pp 13, 17, 22-23, 36
- Cretaceous and Tertiary formations of Kansas and, fossil plants of....H, Ann 4,  
pp 370-385
- elevations in .....H, Misc 1 (3d ed), p 12; H, Misc 1 (4th ed), pp 94-95
- explorations in .....LOR, 1867, pp 128-181, H, Ann 1, pp 5-64
- geology of.....H, Uncl 1, pp 7-79
- north of Platte River .....LOR, 1867, pp 163-166; H, Ann 1, pp 45-48
- locusts in.....H, Ann 9, pp 610-615; H, Uncl 14, pp 74-77, App, pp 117-133
- Niobrara River, course and character of .....LOR, 1868,  
pp 227-229; H, Ann 2, pp 73-76
- North Platte, astronomical determinations at .....W, II, pp 449-458
- Omaha, geology between Cheyenne, Wyoming, and .....H, Ann 4, pp 98-112
- paleontology of eastern.....H, Uncl 1, pp 81-245
- peat in .....H, Uncl 1, pp 69-72
- physical geography and agricultural resources of Minnesota, Dakota, and....H,  
Ann 6, pp 273-313
- salt basins of Lancaster County .....LOR, 1867, pp 130-131; H, Ann 1, pp 8-10
- sand hills of, description of .....H, Ann 4, pp 108-110
- shells of, catalogue of land and fresh-water....H, Bull, vol III, No 3, pp 697-704
- Sidney Barracks, astronomical determinations at.....W, II, pp 417-432
- superficial deposits of.....H, Ann 8, pp 243-269
- trees, fruit and forest, in cultivation of.....LOR, 1867,  
pp 131-133, 135-136; H, Ann 1, pp 10-12, 14-16  
(See, also, Miocene; Pliocene.)
- Nepheline-basalt, analysis of, from Colorado, Navesink Peak.....K, II, p 178
- Neuroptera and pseudo-Neuroptera collected in Colorado, report on.....H, Ann 7,  
pp 571-606
- collected in portions of Colorado, New Mexico, and Arizona.....W, v,  
pp 909-922  
(See, also, Invertebrates.)
- Nevada, Alida district, notes on .....W, 1871, p 47
- Antelope district, notes on .....W, 1871, p 39
- Antelope Hills, geology of.....K, II, pp 483-486
- astronomical determinations in Utah, Montana, Wyoming, Nebraska, Col-  
orado, New Mexico, and.....W, II, pp 1-491
- astronomical observations in .....W, 1874, pp 24-55
- Augusta Mountains, geology of.....K, II, pp 649-659
- granite of.....K, I, pp 79-80
- batrachians of. See Reptiles and batrachians.
- Battle Mountain district, note on.....K, III, pp 317-319; W, 1871, p 40
- Battle Mountains, geology of .....K, II, pp 666-672
- Belmont, mining at .....K, III, pp 394-404
- birds of, annotated list of .....H, Bull, vol VI, No 2, pp 203-256
- bibliography of.....H, Bull, vol VI, No 2, pp 252-256
- collected in California, Oregon, and.....W, 1879, pp 282-335
- in Utah and.....W, Uncl 4, pp 5-33

- Nevada, birds of, collected in portions of California, Utah, Colorado, New Mexico, Arizona, and..... W, v, pp 131-507
- birds observed near Carson City..... W, 1877, pp 1307-1322
- of portions of California and, preliminary report on..... W, 1878, pp 185-186
- Black Rock Mountains, geology of..... K, II, pp 790-797
- Bull Run district, notes on..... W, 1871, p 34
- Carson City, birds observed near..... W, 1877, pp 1307-1322
- Carson Desert, geology of..... K, II, pp 744-751
- Carson Valley, geology of..... W, 1877, pp 1285-1286; W, 1878, pp 168-173
- Castle Dome district, notes on..... W, 1876, pp 60-61
- Coleoptera collected in portions of Utah, California, Colorado, New Mexico, Arizona, and..... W, v, pp 809-827
- Colorado district, notes on..... W, 1876, pp 61-62
- Columbus district, notes on..... W, 1871, p 48
- Comstock lode, mines of, workings of..... K, III, pp 97-191
- ores of, treatment of..... K, III, pp 193-272
- structure, ores, etc., of..... K, III, pp 37-96; W, 1877, pp 1284-1285; W, 1878, pp 145-146
- Cope district, notes on..... W, 1871, p 34
- Cortez district, mining in..... K, III, pp 405-407
- Cortez Range, geology of..... K, II, pp 570-589
- granite of..... K, I, pp 70-74
- Desatoya Mountains, geology of..... K, II, pp 644-649
- Triassic rocks of..... K, I, pp 282-284
- Diamond district, notes on..... W, 1871, p 36
- Diamond Range, geology of..... K, II, pp 549-551
- East Humboldt Range, geology of..... K, II, pp 528-541
- Egan Canyon district, geology of..... K, III, pp 445-449
- Egan Range, geology of..... K, II, pp 486-489
- elevations in..... H, Bull, vol v, No 3, pp 458-459; H, Misc 1 (3d ed), pp 16-17; H, Misc 1 (4th ed), pp 95-98
- Ely district, notes on..... W, 1871, pp 42-43
- Eureka district, notes on..... W, 1871, p 37
- explorations in Arizona and..... W, 1871
- Fish Creek Mountains, geology of..... K, II, pp 660-666
- granite of..... K, I, p 80
- fishes collected in California and, report on..... W, 1878, pp 187-205
- collected in portions of Utah, California, Colorado, New Mexico, and Arizona..... W, v, pp 635-703
- Fountain Head Hills, geology of..... K, II, pp 520-523
- Franklin Buttes, geology of..... K, II, pp 491-493
- granite of..... K, I, p 62
- geology of portions of Utah, New Mexico, Arizona, and..... W, III, pp 227-301
- Gold Mountain district, notes on..... W, 1871, p 47
- porphyry in..... K, I, pp 55-56
- Goose Creek Hills, geology of..... K, II, pp 515-517
- Gosiute Range, geology of..... K, II, pp 502-505
- granite of..... K, I, p 57
- Granite Mountain, geology of vicinity of..... K, II, pp 689-712
- Granite Range, geology of..... K, II, pp 797-800
- granite of..... K, I, pp 93-94
- Green Mountain district, notes on..... W, 1871, p 47
- Groom district, notes on..... W, 1871, pp 44-45
- Havallah Range, geology of..... K, II, pp 673-688

|  |  |
|--|--|
| Nevada, Havallah Range, granite of .....   | K, i, pp 80-83   |
| Havallah Range, Triassic rocks of .....  | K, i, pp 280-281   |
| Hemiptera collected in portions of California, Utah, Arizona, New Mexico, Colorado, and .....  | W, v, pp 829-841   |
| Humboldt Range, Archean rocks of .....   | K, i, pp 62-70   |
| glaciers, extinct, of .....  | K, i, pp 475-476   |
| Humboldt River, region north of, geology of .....  | K, ii, pp 590-617  |
| Humboldt Valley, geology of .....  | K, ii, pp 740-744  |
| Hymenoptera collected in portions of Utah, Colorado, New Mexico, Arizona, and .....            | W, v, pp 705-736   |
| Indians of Arizona and .....   | W, 1871, pp 27-29, 74-76                                       |
| of California, Arizona, and, miscellaneous ethnographic observations on .....                  | H, Ann 10, pp 461-478  |
| of southern and southeastern .....   | W, 1869, pp 35-37  |
| invertebrate fossils of portions of Utah, Colorado, New Mexico, Arizona, and .....             | W, iv, pp 1-219  |
| Jurassic rocks of western .....  | K, i, pp 293-295   |
| Kamma Mountains, geology of .....  | K, ii, pp 786-790  |
| Kawsoh Mountains, geology of .....   | K, ii, pp 776-774  |
| Kinsley district, granite and Archean rocks of .....   | K, i, pp 60-62   |
| Lake Range, geology of .....   | K, ii, pp 814-816  |
| granite rocks of .....   | K, i, pp 96-97   |
| leeches, fresh-water, collected in portions of Utah, Colorado, New Mexico, Arizona, and .....  | W, v, pp 955-967   |
| lithology and mineralogy of portions of California and .....                                   | W, 1878, pp 184-185  |
| Little Cedar Mountains, geology of .....   | K, ii, pp 512-514  |
| locusts in .....   | H, Ann 9, pp 604-605; H, Uncl 14, pp 105-106                   |
| Lodi mining district, description of .....   | W, 1877, pp 1270-1271  |
| Lone Mountain district, notes on .....   | W, 1871, p 35  |
| mammals collected in portions of Utah, California, Colorado, New Mexico, Arizona, and .....    | W, v, pp 35-129  |
| Mammoth mining district, description of .....  | W, 1877, pp 1269-1270  |
| Mineral Hill district, notes on .....  | W, 1871, pp 35-36  |
| mineralogy of .....  | H, Bull, vol iv, No 3, pp 731-745                              |
| mining and milling in western .....  | K, iii, pp 295-319   |
| mining districts of .....  | W, 1871, pp 34-48; W, 1872, pp 26-28; W, 1876, pp 54-55, 61-62 |
| Montezuma district, notes on .....   | W, 1871, p 46  |
| Montezuma Range, Archean rocks of .....  | K, i, pp 87-90   |
| geology of .....   | K, ii, pp 751-766  |
| Mopung Hills, geology of .....   | K, ii, pp 733-737  |
| Morey district, notes on .....   | W, 1871, p 38  |
| mountain ranges in, features of .....  | W, iii, pp 240-248   |
| Ombe Range, geology of .....   | K, ii, pp 494-501  |
| granite of .....   | K, i, pp 56-57   |
| ornithology of portions of California and, preliminary report on .....                         | W, 1878, pp 185-186  |
| Orthoptera collected in portions of California, Arizona, Utah, Colorado, New Mexico, and ..... | W, v, pp 843-908   |
| Pah Ute range, granite of .....  | K, i, pp 83-85   |
| Triassic rocks of .....  | K, i, pp 278-280   |
| Pahrnagat Lake district, notes on .....  | W, 1871, pp 43-44  |
| Pahsupp Mountains, geology of .....  | K, ii, pp 801-803  |
| granite of .....   | K, i, pp 92-93   |

- Nevada, Pahitson Mountains, Archean rocks of ..... K, I, pp 90-92
- Pahitson Mountains, geology of ..... K, II, pp 775-783
- Palmetto district, notes on ..... W, 1871, p 47
- Peavine Mountain, Archean rocks of ..... K, I, p 97
- Peoquop Range, geology of ..... K, II, pp 505-512
- granite of ..... K, I, pp 58-59
- Piñon Range, geology of ..... K, II, pp 551-564
- Pioche, astronomical determinations at ..... W, II, pp 75-96
- plants collected in Arizona, Utah, and, list of ..... W, Uncl 5, pp 5-19
- collected in Utah, Colorado, New Mexico, Arizona and, catalogue of,  
    with descriptions of new species ..... W, VI, pp 53-297
- of Utah and, catalogue of ..... K, V, pp 1-496
- Rattlesnake Canyon district, notes on ..... W, 1871, p 39
- reconnaissance in southern and southeastern ..... W, 1869
- Red Mountain and Silver Peak districts, notes on ..... W, 1871, pp 48-49
- Reese River, mining and milling at ..... K, III, pp 349-408
- region east of, geology of ..... K, II, pp 627-635
- reptiles and batrachians collected in Arizona, California, and ..... W, 1878, pp 206-226
- collected in portions of California, Utah, Arizona, New Mexico, Col-  
    orado, and ..... W, V, pp 509-584
- Reveille district, notes on ..... W, 1871, p 42
- Ruby Range, geology of ..... K, II, pp 489-491
- San Antonio district, notes on ..... W, 1871, pp 45-46
- Secret Canyon district, notes on ..... W, 1871, p 37
- Seetoya Mountains, granite of ..... K, I, pp 74-75
- Shoshone Range, geology of ..... K, II, pp 618-624, 631-643
- granite of ..... K, I, pp 77-79
- Silver Bend district, notes on ..... W, 1871, pp 41-42
- Silver Peak and Red Mountain districts, notes on ..... W, 1871, pp 48-49
- Smoky Valley Range, geology and mines of ..... K, III, pp 393-404
- Soda Lakes, description of ..... K, I, pp 510-514
- Spring Valley district, notes on ..... W, 1871, p 39
- springs, thermal, in ..... H, Ann 12, II, pp 321-323
- Star district, mining in ..... K, III, pp 314-316
- Sweetwater Mountains, geology of ..... W, 1878, pp 173-175
- Timpahute district, notes on ..... W, 1871, pp 44
- Toano group of mountains, geology of ..... K, II, pp 517-520
- Toyabe Range, geology of ..... K, II, pp 627-631; K, III, pp 320-348
- granite in ..... K, I, pp 75-77
- Triassic rocks of western ..... K, I, pp 266-268
- Trinity Mountains, mining and milling in ..... K, III, pp 297-308
- Truckee River region, geology of ..... K, II, pp 817-853
- Truckee Range, Archean rocks of ..... K, I, pp 94-96
- geology of ..... K, II, pp 803-811
- Tucubits Mountains, geology of ..... K, II, pp 523-527
- Tuscarora district, notes on ..... W, 1871, p 35
- Tyboe district, notes on ..... W, 1871, p 40
- Union mining district, descriptions of ..... W, 1877, p 1269
- Unionville, mining at ..... K, III, pp 308-314
- valleys of, short descriptions of some of the ..... II, Ann 5, pp 271-273
- vegetation in, distribution of, as affecting that of the avi-fauna ..... II, Bull,  
    vol VI, No 2, pp 204-208
- Virginia City, astronomical determinations at ..... W, II, pp 183-210
- Virginia Range, geology of ..... K, II, pp 824-826; K, III, pp 11-36



- Nevada, Washoe Mountains, geology of ..... K, II, pp 476-483  
 Washoe Mountains, granite of ..... K, I, pp 59-60  
 Wahweah Range, geology of ..... K, II, pp 566-569  
   granite of ..... K, I, p 74  
 Washoe district, geology of ..... K, III, pp 11-36  
   map of ..... W, 1879, p 188  
   notes on ..... W, 1876, pp 54-55  
 West Humboldt Range, Archean rocks of ..... K, I, pp 85-87  
   geology of ..... K, II, pp 713-731  
   mining in ..... K, III, pp 308-316  
   Triassic rocks of ..... K, I, pp 267-278  
 western, geology of eastern California and, between parallels of 39° 30' and  
   38° 30' ..... W, 1877, pp 1285-1295  
   geology of portions of eastern California and ..... W, 1878, pp 167-183  
 White Pine district, geology of, and mining and milling in ..... K, II,  
   pp 542-547; K, III, pp 409-444  
   notes on ..... W, 1871, p 39  
 Winnemucca, astronomical determinations at ..... W, II, pp 157-182  
 Winnemucca Lake region, geology of ..... K, II, pp 801-816  
 Yellow Pine district, notes on ..... W, 1871, pp 52-53  
 (See, also, Great Basin; Fortieth Parallel region; Basin Ranges.)  
 Nevada Basin, geology of ..... K, II, pp 627-853  
 Nevada City, Colorado, mines at and near ..... H, Ann 3,  
   pp 116-118; H, Ann 1-3, pp 114-116  
 Nevada Plateau, augite-andesite of ..... K, I, pp 571-577  
   dacite of ..... K, I, pp 567-571  
   geology of ..... K, II, pp 469-625  
   hornblende-andesite of ..... K, I, pp 562-567  
   propylite of ..... K, I, pp 550-557  
   quartz-propylite of ..... K, I, pp 557-561  
   trachyte of ..... K, I, pp 595-605  
 New Almaden mercury mines, California, notes on ..... W, 1876, p 64  
 New Coso district, California, notes on ..... W, 1876, pp 56-57  
 New Eldorado district, California, notes on ..... W, 1876, pp 58-59  
 New Mexico, Abiquiu region, geology of ..... W, 1875, pp 101-103  
   Acoma, pueblo at ..... W, VII, pp 325-326  
   agricultural resources of eastern Arizona and western ..... W, III, pp 573-597  
     of southern Colorado and northern ..... W, 1875, pp 129-139  
     of south-central Colorado and north-central ..... W, III, Supp, pp 360-388  
   astronomical determinations in Nevada, Utah, Montana, Wyoming,  
     Nebraska, Colorado, and ..... W, II, pp 1-491  
     in Texas and ..... W, 1879, pp 268-270  
 Aztec mining district, description of ..... W, 1876, pp 66-67  
 batrachians. (See Reptiles and batrachians.)  
 birds collected in Arizona and portions of ..... W, 1875, pp 149-153  
   collected in Colorado, Utah, Arizona, Nevada, California, and ..... W, V,  
     pp 131-507  
   of eastern Arizona and western ..... W, Uncl 4, pp 95-148  
 botanical notes on ..... W, VI, pp 15-37  
 Canadian River region, agricultural resources of ..... W, III, Supp, pp 374-379  
   geology of ..... W, III, Supp, pp 225-282  
 Canadian Valley, geology of, notes on ..... H, Bull, vol II, No 4, pp 279-285  
 Chaco Canyon, ruins in ..... W, VII, pp 366-369; H, Ann 10, pp 431-449  
   skull from, report on ..... H, Ann 10, pp 453-457

- New Mexico, Chama River, pueblo and burial place on.....W, vii, pp 362-365
- Chelly Canyon, ruins in.....W, vii, pp 372-373
- Chloride mining district, notes on.....W, 1879, p 193
- Cimarron, astronomical determinations at.....W, ii, pp 403-415
- Cimarron Creek region, geology of.....W, iii, Supp, pp 231-248
- climate of, notes on.....W, 1875, pp 111-116
- climate, timber, irrigation, etc., in portions of Arizona and..W, 1875, pp 117-129
- coal from.....W, iii, pp 631-636
- coal in Galisteo field.....W, iii, Supp, pp 126-130
- in Trinidad field.....W, iii, Supp, pp 102-126, 389-393
- Coleoptera collected in portions of California, Nevada, Utah, Colorado,  
    Arizona, and.....W, v, pp 809-827
- from Colorado, California, and, new species of.....W, 1876, pp 296-300
- Diamond Creek, cliff house and cave on.....W, vii, pp 370-371
- elevations in.....H, Misc 1 (3d ed), p 13;  
    H, Misc 1 (4th ed), pp 98-101; H, Bull, vol v, No 3, pp 459-461
- Eocene and Pliocene lacustrine formations of, notes on, including descrip-  
    tions of certain new species of vertebrates.....W, 1874, pp 115-130
- Eocene plateau of, geology of.....W, 1875, pp 88-93
- eruptive rocks of Arizona and.....W, iii, pp 638-651
- explorations in northern.....W, 1876,  
    pp 136-147; H, Ann 3; H, Ann 1-3, pp 103-261
- fishes collected in portions of California, Nevada, Utah, Colorado, Arizona,  
    and.....W, v, pp 635-703
- foothills facing plains, geology of.....W, 1877, pp 1298-1303
- Fort Bayard, astronomical work in.....W, 1879, pp 81-113
- Fort Union, astronomical determinations at.....W, ii, pp 313-335
- geology near.....H, Ann 3, pp 58-61; H, Ann 1-3, pp 158-161
- Galisteo Creek region, geology of.....W, iii, Supp, pp 328-346
- Gallinas Creek, geology near.....H, Ann 3, pp 61-64; H, Ann 1-3, pp 161-164
- geologic and mineralogic report on portions of Colorado and..W, 1875, pp 97-116
- geology of portions of Arizona and.....W, iii, pp 503-567
- of portions of Arizona, Utah, Nevada, and.....W, iii, pp 227-301
- gold in Placer and Cimarron mountains.....W, iii, Supp, pp 398-402
- Hemiptera collected in Colorado, Arizona, California, and.....W, 1877,  
    pp 1322-1334
- collected in portions of California, Nevada, Utah, Arizona, Colorado,  
    and.....W, v, pp 829-841
- human remains of ancient ruins in southwestern Colorado and northern.....H,  
    Bull, vol ii, No 1, pp 47-63
- of Eocene plateau of northwestern.....W, 1875, pp 166-173
- Hymenoptera collected in portions of Colorado, Utah, Arizona, Nevada,  
    and.....W, v, pp 705-736
- Indians of, houses of.....Eth, iv, pp 132-153
- insect fauna, alpine, collected in Colorado and.....W, 1876, pp 301-305
- invertebrate fossils of portions of Arizona, Nevada, Utah, Colorado, and..W, iv,  
    pp 1-219
- iron ore of Galisteo Creek.....W, iii, Supp, pp 394-395
- Las Animas River, ruins along.....W, vii, pp 347-350
- Las Vegas, astronomical determinations at.....W, ii, pp 385-401
- leeches, fresh-water, collected in portions of Nevada, Arizona, Utah,  
    Colorado, and.....W, v, pp 955-967
- Lignitic formation in, distribution and thickness of.....H, Ann 6, pp 362-364
- lithology of portions of southern Colorado and northern..W, 1877, pp 1295-1298

- New Mexico, Lone mining district, notes on.....W, 1879, p 192
- Los Cerillos mines, notes on.....W, 1879, p 197
- mammals collected in portions of California, Nevada, Arizona, Utah,  
Colorado, and.....W, v, pp 35-129
- Mesozoic beds of northern.....W, iv, pt ii, pp 1-25
- Mimbres silver mining district, notes on.....W, 1879, p 194
- mines and minerals of.....H, Ann 3, pp 121-125; H, Ann 1-3, pp 119-123
- Mollusca, terrestrial and fluviatile, collected in portions of Utah, Colo-  
rado, Arizona, and.....W, v, pp 923-954
- Mora River region, geology of.....W, iii, Supp, pp 283-312
- Mora Valley, geology of.....H, Ann 3, pp 59-61; H, Ann 1-3, pp 159-161
- Moreno Valley, geology of, notes on.....H, Bull, vol iii, No 4, pp 289-296
- Nacimiento Desert, geology of.....W, 1875, pp 103-106
- Neuroptera and pseudo-Neuroptera collected in portions of Arizona, Colo-  
rado, and.....W, v, pp 909-922
- north-central, geology of south-central Colorado and.....W, iii, Supp, pp 3-420
- northeastern, geology of, notes.....H, Bull, vol ii, No 4, pp 279-308
- northwestern, geology of portion of.....W, 1875, pp 61-97
- ornithology of portions of Arizona and, notes on.....W, 1875, pp 149-153
- Orthoptera collected in California, Colorado, and.....W, 1876, pp 278-295
- collected in California, Nevada, Utah, Arizona, Colorado, and.....W, v,  
pp 843-908
- Pecos River, mountain ranges between La Veta Pass and the head of,  
geology of.....W, 1876, pp 199-202
- Pecos Valley, agriculture in.....H, Ann 4, pp 207-208
- Pinos Altos mining district, notes on.....W, 1879, p 195
- Placiere Mountains, geology of.....H, Ann 3, pp 66-68; H, Ann 1-3, pp 166-168
- plants collected in Colorado and, catalogue of.....H, Ann 4, pp 484-487
- collected in Nevada, Utah, Arizona, Colorado, and, catalogue of, with  
descriptions of new species.....W, vi, pp 53-297
- of Arizona and.....W, iii, pp 603-609
- plateau region of Arizona and, geology of.....W, iii, pp 542-567
- pottery, implements, etc., obtained in Arizona and.....W, vii, pp 374-390
- pueblo languages of, report on.....W, 1875, pp 180-187
- Purgatory River region in Colorado and, geology of.....W, iii, Supp, pp 195-224
- range region in Arizona and, geology of.....W, iii, pp 507-524
- reptiles and batrachians collected in portions of California, Nevada, Utah,  
Arizona, Colorado, and.....W, v, pp 509-584
- Rio Grande del Norte, agriculture in valley of.....W, iii, pp 574-578
- Rio Grande, upper region of, agricultural resources of.....W, iii, Supp, pp 362-373
- geology of.....W, iii, Supp, pp 313-353
- Rio Grande Valley, agriculture in.....H, Ann 4, pp 204-207
- geology of.....W, 1875, pp 64-68, 76-78
- Rocky Mountains, eastern slope of, geology of.....W, 1875, pp 62-64
- ruins in.....W, vii, pp 337-345; W, 1875, pp 174-178
- in Las Animas Valley and other places.....W, 1875, pp 178-180
- San Juan, pueblo of, description of.....W, vii, p 331
- San Juan River, ruins of houses of Indians on.....Eth, iv, pp 154-197
- Santa Fe, astronomical determinations at.....W, ii, pp 337-369
- mines near.....H, Ann 3, pp 121-123; H, Ann 1-3, pp 119-121
- Sierra Madre, geology of.....W, 1875, pp 78-88
- Mesozoic beds of western slope of.....W, iv, pt ii, pp 1-13
- silver near Santa Fe.....W, iii, Supp, pp 403-404
- southwestern, reconnaissance in.....W, 1879, pp 237-253

- New Mexico, Taos, geology near ..... H, Ann 3, pp 70-72; H, Ann 1-3, pp 170-172  
 Taos, mines near ..... H, Ann 3, p 123; H, Ann 1-3, p 119  
   pueblo of ..... W, VII, pp 327-330  
 Taos Valley, agriculture in ..... H, Ann 4, pp 202-204  
 turquois in Los Cerillos ..... W, III, Supp, pp 403-404  
 Vermejo Creek region, geology of ..... W, III, Supp, pp 248-262  
 Vermejo Park, geology of, notes on ..... H, Bull, vol II, No 4, pp 296-305  
 vertebrates, fossil, collected in ..... W, IV, pt II  
   of Eocene of, systematic catalogue of ..... W, Uncl 9  
   volcanic region in Arizona and, geology of ..... W, III, pp 525-541  
 New Fork of Green River, Wyoming, geology near ..... H, Ann 11, p 526  
 New Zealand, springs, thermal, and geysers of ..... H, Ann 12, II, pp 313-320  
 Newberry (J. S.), the ancient lakes of western America: their deposits and  
   drainage: ..... H, Ann 4, pp 329-339  
 Newton (H.), geology of the Black Hills ..... BH, pp 1-222  
 Nez Percé's language, grammar of, notes on ..... H, Bull, vol II, No 3, pp 271-277  
   (See, also, Ethnology and archæology.)  
 Niagara group in Idaho, eastern, and Wyoming, western ..... H, Ann 11, pp 484-485  
 Nicholson (H. A.) and White (C. A.), bibliography of North American inverte-  
   brate paleontology ..... H, Misc 10  
   supplement to the bibliography of North American invertebrate paleon-  
   tology ..... H, Bull, vol V, No 1, pp 143-152  
 Nikutemuhk language, vocabulary of ..... Eth, I, pp 247-265  
   (See, also, Ethnology and archæology.)  
 Nimravidae and Canidae of the Miocene period, descriptions of ..... H, Bull,  
   vol VI, No 1, pp 165-181  
   (See, also, Vertebrates, fossil.)  
 Niobrara group, distribution and character of ..... H, Mon II, pp 16-24  
   fossils, vertebrate, of ..... H, Ann 5, pp 327-347  
   of Black Hills ..... BH, pp 173-174  
   of Colorado, south-central, and New Mexico, north-central ..... W, III,  
     Supp, pp 97-99  
   Spanish Peaks region ..... W, 1879, p 277  
   of Fortieth Parallel region ..... K, I, pp 425-431  
   of Kansas ..... H, Ann 9, pp 281-289; H, Bull, vol II, No 3, pp 214-221  
   Missouri country, upper ..... H, Mon IX, pp xxx-xxxiii  
   of Missouri River region, fossil vertebrates from ..... H, Bull,  
     vol III, No 3, pp 577-586  
   of Nebraska ..... LOR, 1867, pp 171-172; H, Ann 1, p 54  
   of New Mexico, north-central, and Colorado, south-central ..... W, III,  
     Supp, pp 97-99  
 Niobrara River, course and character of ..... LOR, 1868, pp 227-229; H, Ann 2, pp 73-76  
 Niskwalli language, dictionary of ..... Eth, I, pp 285-361  
   (See, also, Ethnology and archæology.)  
 Noctue, catalogue, partial, of ..... H, Bull, vol VI, No 3, pp 568-578  
   (See, also, Invertebrates.)  
 Noctuid moths collected in Colorado in 1875, notes on ..... H, Bull,  
   vol III, No 1, pp 115-120  
   (See, also, Invertebrates.)  
 Noctuidæ, descriptions of Lithophane and new ..... H, Bull, vol V, No 2, pp 201-208  
   of California ..... H, Bull, vol IV, No 1, pp 169-187  
   (See, also, Invertebrates.)  
 North America, Acrididæ of, synopsis of ..... H, Mon V  
   Cretaceous flora of, review of ..... H, Ann 8, pp 316-365

North America, Crustacea, fresh-water phyllopod, of, synopsis of. . . . . H, Ann 7, pp 613-622  
fishes of fresh waters of, catalogue of . . . . . H, Bull, vol iv, No 2, pp 407-442  
fossil flora of, review of . . . . . H, Bull, vol i, ser 2, No 5, pp 233-248  
invertebrate paleontology, bibliography of . . . . . H, Miscel 10  
Lignitic formation of, distribution, age, stratigraphy, etc., of. . . . . H, Mon vii,  
pp 3-31  
Tertiary flora of, considered as evidence of the age of the forma-  
tion. . . . . H, Ann 8, pp 275-315  
Pinnipeds of, history of . . . . . H, Miscel 12  
Rhizopods, fresh water, of . . . . . H, Mon xii  
Tertiary flora of . . . . . H, Ann 5, pp 304-318  
vertebrata, extinct, of Europe and, relations of horizons of. . . . . H, Bull, vol v,  
No 1, pp 33-54  
North Park, Colorado, geology of . . . . . K, ii, pp 112-129;  
LOR, 1868, pp 237-242; H, Ann 2, pp 85-88; H, Ann 4, pp 124-128  
North Park group of Fortieth Parallel region . . . . . K, i, pp 431-434  
North Platte, Nebraska, astronomical determinations at . . . . . W, ii, pp 449-450  
North Platte Valley, Wyoming, geology of. . . . . K, ii, pp 152-155  
Northwest, tribes of . . . . . Eth, i, pp 1-106  
Norton (E.), report upon the collections of Formicidæ made during years  
1872, 1873, and 1874 . . . . . W, v, pp 729-736  
Obsidian, thin section of, from Nevada, Truckee Ferry . . . . . K, vi, pl 8  
thin section of, from Utah, Ombe Butte . . . . . K, vi, pl 10  
Odonata from the Yellowstone . . . . . H, Ann 6, pp 727-729  
(See, also, Invertebrates.)  
Odontornithes, monograph on . . . . . K, vii  
(See, also, Vertebrates, fossil.)  
Ogden, Utah, astronomical determinations at . . . . . W, ii, pp 7-55  
geology between Fort Hall and . . . . . H, Ann 5, pp 13-26; H, Ann 6, pp 197-207  
meteorological observations at . . . . . H, Miscel 2, pp 60-63  
Ogden Canyon, Utah, Paleozoic rocks of . . . . . K, i, pp 174-177  
Ogden quartzite of Great Basin . . . . . K, i, pp 193-195, 234-235  
Ogden region, Utah, geology of . . . . . K, ii, pp 394-403  
Oil, analysis of, from Colorado, Canyon City . . . . . H, Ann 3, p 120  
Okinakew language, vocabulary of . . . . . Eth, i, pp 248-265  
(See, also, Ethnology and archæology.)  
Olney (S. T.), Carices of Great Basin . . . . . K, v, pp 361-375  
plants determined by . . . . . W, Uncl 5, pp 52-54  
Omaha, Nebraska, geology between Cheyenne, Wyoming, and . . . . . H, Ann 4,  
pp 98-112  
Ombe Mountains, Nevada, geology of . . . . . K, ii, pp 494-501  
granite of . . . . . K, i, pp 56-57  
Oneata district, California, notes on . . . . . W, 1871, p 48  
Oquirrh Mountains, Utah, geology of . . . . . K, ii, pp 443-454  
Ore, analyses of, from Nevada, Comstock lode . . . . . K, iii, p 80  
analysis of, from Nevada, Trinity Mountains . . . . . K, iii, p 299  
from Nevada, Washoe district, Kentuck, and Savage mines . . . . . K, iii, p 274  
White Pine . . . . . K, iii, p 420  
from Wyoming, Chugwater River . . . . . H, Ann 4, p 14  
of Comstock lode, treatment of . . . . . K, iii, pp 193-272  
Oregon, astronomical work in Washington, California, and . . . . . W, 1879, pp 265-268  
birds of California, Nevada, and . . . . . W, 1879, pp 282-335  
elevations in . . . . . H, Miscel 1 (3d ed), p 18; H, Miscel 1 (4th ed), pp 101-102

- Oregon, kjökkenmöddings and graves of a former population on the coast of . . . H, Bull, vol III, No 1, pp 27-35
- Miocene of, faunæ of, observations on . . . H, Bull, vol v, No 1, pp 55-69
- southern, reconnaissance in . . . W, 1879, pp 214-223
- The Dalles, astronomical work at . . . W, 1879, pp 17-41
- tribes of western Washington and northwestern . . . Eth, I, pp 157-241
- Ornaments of Indians of southern California . . . W, VII, pp 251-262  
(See, also, Ethnology and archæology.)
- Ornaments, bead, employed by ancient tribes of Utah and Arizona . . . H, Bull, vol II, No 1, pp 67-69  
(See, also, Ethnology and archæology.) •
- Ornithology, bibliography of American . . . H, Bull, vol v, No 2, pp 239-330; H, Bull, vol v, No 3, pp 521-1066  
repository of information concerning North American . . . H, Miscel 11  
(See, also, Birds; Vertebrates.)
- Orographic structure, types of . . . UM, pp 9-18
- Orography of Fortieth Parallel region . . . K, I, pp 727-761
- Orthoclase, analysis of, from Colorado, Bear Creek . . . H, Ann 10, p 147
- Orthoptera collected in California, New Mexico, and Colorado, report on . . . W, 1876, pp 278-295  
collected in Colorado in 1875, list of . . . H, Bull, vol II, No 3, pp 261-267  
in Dakota and Montana in 1873, discussion of . . . H, Bull, vol IV, No 2, pp 481-501  
in Nevada, Utah, California, Colorado, New Mexico, and Arizona, portions of . . . W, v, pp 843-908  
description of new species of . . . H, Ann 4, pp 263-284; H, Bull, vol I, ser 1, No 2, pp 63-71  
notes on the saltatorial, of the Rocky Mountain region . . . H, Ann 5, pp 423-466  
of Nebraska, notes on . . . H, Uncl I, pp 249-261  
of Rocky Mountain region . . . H, Ann 6, pp 717-725  
of Tertiaries of Rocky Mountains . . . H, Bull, vol I, ser 2, No 6, pp 447-449  
(See, also, Invertebrates; Invertebrates, fossil.)
- Ostensacken (C. R.), notice on galls collected by Lieut. W. L. Carpenter . . . H, Ann 7, p 567  
report on Diptera collected in Colorado by Lieut. W. L. Carpenter during the summer of 1873 . . . H, Ann 7, pp 561-566  
report upon the collection of Diptera made in portions of Colorado and Arizona during the year 1873 . . . W, v, pp 803-807  
western Diptera, descriptions of new genera and species of Diptera from the region west of the Mississippi, and especially from California . . . H, Bull, vol III, No 2, pp 189-354
- Osteology of Cathartidæ . . . H, Ann 12, I, pp 727-806  
of *Eremophila alpestris* . . . H, Ann 12, I, pp 627-652  
of North American Tetraonidæ . . . H, Ann 12, I, pp 653-726  
of *Speotyto cunicularia hypogæa* . . . H, Ann 12, I, pp 593-626
- Otoe Indians, condition of, notes on . . . LOR, 1867, pp 151-154; H, Ann 1, pp 32-35  
(See, also, Ethnology and archæology.)
- Owens Lake, California, description of . . . W, 1876, pp 189-190
- Owiyukuts Plateau, geology of . . . K, II, pp 271-275
- Oyster Ridge, Wyoming, Cretaceous uplift of . . . K, II, pp 250-253  
geology of . . . H, Ann 11, pp 533-534
- Packard (A. S., jr.), description of a Lernean Crustacean (*Achtheres carpenteri*) obtained by Lieut. W. L. Carpenter in 1873 in Colorado . . . H, Ann 7, p 612

- Packard (A. S., jr.), description of new insects.....H, Ann 6, pp 739-741  
 description of new parasitic worms found in the brain and other parts of  
 birds .....H, Ann 6, pp 735-737  
 descriptions of new phyllopod Crustacea from the West.....H, Bull,  
 vol III, No 1, pp 171-185  
 descriptions of new species of Mallophaga collected by C. H. Merriam  
 while in the Government Geological Survey of the Rocky  
 Mountains.....H, Ann 6, pp 731-734  
 insects affecting the cranberry, with remarks on other injurious in-  
 sects .....H, Ann 10, pp 521-531  
 insects inhabiting Great Salt Lake and other saline or alkaline lakes in  
 the West .....H, Ann 6, pp 743-746  
 monograph of the geometrid moths, or Phalenidæ of the United  
 States .....H, Mon x  
 monograph on the phyllopod Crustacea of North America, with remarks  
 on the order Phyllocarida.....H, Ann 12, I, pp, 295-457  
 on a crayfish from the Lower Tertiary beds of western Wyoming.....H, Bull,  
 vol VI, No 2, pp 391-397  
 on a new cave fauna in Utah .....H, Bull, vol III, No 1, pp 157-169  
 on the geographical distribution of the moths of Colorado.....H, Ann 7,  
 pp 543-559  
 on the supposed ancient outlet of Great Salt Lake.....H, Bull,  
 vol I, ser 2, No 5, pp 413-414  
 report on the Myriapods collected by Lieut. W. L. Carpenter in 1873 in  
 Colorado.....H, Ann 7, p 607  
 report on the Rocky Mountain locust and other insects now injuring or  
 likely to injure field and garden crops in the western States  
 and Territories.....H, Ann 9, pp 589-599  
 synopsis of the fresh-water phyllopod Crustacea of North America....H, Ann 7,  
 pp 613-622  
 Pagosa Springs, Colorado, geology of.....H, Ann, 9, pp 183-185  
 Pahranaagat Lake district, Nevada, notes on .....W, 1871, pp 43-44  
 Pahsupp Mountains, Nevada, geology of .....K, II, pp 801-803  
 granite of.....K, I, pp 92-93  
 Pahtson Mountains, Nevada, Archean rocks of .....K, I, pp 90-92  
 geology of.....K, II, pp 775-786  
 Pah-Ute Lake (Tertiary), extent of.....K, I, pp 454-455  
 Pah-Ute Range, Nevada, granite of.....K, I, pp 83-85  
 Triassic rocks of.....K, I, pp 278-280  
 Palagonite, analysis of, from Galapagos, Java, and Iceland..K, I, p 417; K, II, p 770  
 analysis of, from Nevada, Carson River .....K, II, p 769  
 from Nevada, Hanes station.....K, I, p 417  
 Palagonite-tufa, thin section of, from Nevada, Hanes station.....K, VI, p 12  
 Paleontology, general significance of .....H, Mon II, pp 7-14  
 (See, also, Plants, fossil; Vertebrates, fossil; Invertebrates, fossil.)  
 Paleozoic rocks of California, southeastern.....W, 1876, p 174  
 of Colorado, central .....W, III, pp 355-377  
 Eagle, Grand, and Gunnison rivers.....H, Ann 8, pp 110-120  
 Grand River district.....H, Ann 9, pp 70-79; H, Ann 10, p 178  
 of Fortieth Parallel area, exposures of .....K, I, pp 127-248  
 of Idaho, Bear River Range.....H, Ann 11, pp 613-621  
 eastern, and Wyoming, western.....H, Ann 11, pp 477-490  
 of Nevada, Pinyon Range .....K, II, pp 552-558  
 of Utah, Bear River region.....H, Ann 11, pp 613-621

- Paleozoic rocks of Utah, Grand River district...H, Ann 9, pp 70-79; H, Ann 10, p 178  
of Utah, high plateaus .....HP, pp 143-148  
of Wyoming, Colorado Range.....K, II, pp 29-33  
Rawlings Peak, vicinity of.....H, Ann 11, pp 119-121  
Sweetwater Valley .....H, Ann 11, pp 101-105  
western, and Idaho, eastern .....H, Ann 11, pp 477-490  
Wind River Range, vicinity of .....H, Ann 11, pp 70-80  
(See, also, Carboniferous, Cambrian, etc.)
- Palmetto district, Nevada, notes on .....W, 1871, p 47  
Panamint district, California, notes on .....W, 1876, pp 49-51  
Paragenesis in Nevada, Comstock lode .....K, III, pp 91-93  
Paria amphitheater, Utah, geology of .....HP, pp 253-256  
Park Province, Colorado, structure of.....UM, pp 26-29  
Park Range, Colorado, Archean rocks of.....K, I, pp 36-42  
geology of .....H, Ann 7, pp 39-48, 225-239; K, II, pp 130-141  
topographic features of .....H, Ann 9, pp 378-381  
trachyte of .....K, I, pp 582-585  
Parthenogenesis in *Artemia salina*.....H, Ann 12, I, pp 463-466  
Partzite, analysis of, from California, Blind Spring district .....W, 1876, p 185  
Pass Creek, Wyoming, geology near....LOR, 1868, pp 246-247; H, Ann 2, pp 93-94  
*Passer domesticus*, status of, in America, with special reference to the Western  
States and Territories.....H, Bull, vol v, No 2, pp 175-193  
(See, also, Vertebrates.)
- Passes, elevations of .....H, Bull, vol v,  
No 3, pp 469-470; H, Misc 1, pp 35-36; H, Misc 1 (3d ed), pp  
26-27; H, Misc 1 (4th ed), pp 134-137; W, Uncl 16, pp 181-190  
in Colorado, central .....W, III, pp, 310-318
- Patton (W. H.), generic arrangement of the bees allied to *Melissodes* and  
*Anthophora* .....H, Bull, vol v, No 3, pp 471-479  
list of a collection of aculeate Hymenoptera made by Mr. S. W. Williston  
in northwestern Kansas .....H, Bull, vol v, No 3, pp 349-370  
the American *Bembecidæ*, tribe *Stizini* .....H, Bull, vol v, No 3, pp 341-347
- Paunsagunt Plateau, Utah, geology of.....HP, pp 251-253
- Peale (A. C.), geological report on Grand River district .....H, Ann 9,  
pp 31-101; H, Ann 10, pp 161-185  
geology of Green River district.....H, Ann 11, pp 509-646  
geology of South Park.....H, Ann 7, pp 193-273  
Juratrias section of southeastern Idaho and western Wyoming.....H, Bull,  
vol v, No 1, pp 119-123
- Laramie group of western Wyoming and adjacent regions.....H, Bull,  
vol v, No 2, pp 195-200
- mines noted by South Park division of United States Geological Survey,  
1873.....H, Ann 7, pp 301-305
- on a peculiar type of eruptive mountains in Colorado.....H, Bull,  
vol III, No 3, pp 551-564
- report of, for 1874 .....H, Ann 8, pp 75-180  
report of, for 1872.....H, Ann 6, pp 97-187  
thermal springs of Yellowstone National Park. ....H, Ann 12, II, pp 63-453
- Pealite, analyses of, from Yellowstone Park.....H, Ann 12, II, pp 413-415
- Pearlite, thin section of, from Nevada, Pahtson Mountains .....K, VI, pl 9
- Pearlitic rock, thin section of, from Nevada, Montezuma Range .....K, VI, pl 9
- Peat in Nebraska.....H, Uncl 1, pp 69-72
- Peavine Mountain, Nevada, Archean rocks of.....K, I, p 97



- Pecos River, New Mexico, mountain ranges between La Veta Pass and the head of, geology of ..... W, 1876, pp 199-202
- Pecos Valley, New Mexico, agriculture in ..... H, Ann 4, pp 207-208
- Pennell, Mount, Utah, geology of ..... HM, pp 35-38
- Peoquop Range, Nevada, geology of ..... K, II, pp 505-512  
granite of ..... K, I, pp 58-59
- Permian rocks of Colorado, Eagle and Grand Rivers ..... H, Ann 8, pp 117-120  
of Texas, Batrachia and Reptilia of, some new... H, Bull, vol VI, No 1, pp 79-82  
of Wyoming, Wind River Range, vicinity of ..... H, Ann 11, pp 78-79
- Pestles and mortars from graves in southern California ..... W, VII, pp 70-92  
(See, also, Ethnology and archæology.)
- Petrographic notes on the volcanic rocks of Yellowstone Park ..... H, Ann 12,  
II, pp 57-62
- Petrography, microscopic, of Black Hills ..... BH, pp 469-527  
of Fortieth Parallel region ..... K, VI
- Petzite, analysis of, from Colorado ..... H, Ann 10, p 148
- Phonolite of Black Hills, petrography of ..... BH, pp 492-494, 503-505  
thin section of, from Black Hills ..... BH, p 528
- Phalenidæ of the United States, monograph on ..... H, Mon x  
(See, also, Invertebrates.)
- Photographs, descriptive catalogue of ..... H, Misc 5 (2 editions)  
of Indians, catalogue of ..... H, Misc 5 (1st ed), pp 67-83; H, Misc 9
- Phyllopod Crustacea of North America, monograph of ..... H, Ann 12, I, pp 295-457  
of the West, descriptions of new ..... H, Bull, vol III, No 1, pp 171-185  
(See, also, Invertebrates.)
- Physidæ and Unionidæ, fossil, collected in Montana in 1876, descriptions of... H, Bull,  
vol III, No 3, pp 599-602  
(See, also, Invertebrates, fossil.)
- Physiological effects of a very hot climate ..... W, 1876, pp 328-330
- Pickeringite, analysis of, from Colorado, Monument Park ..... H, Ann 10, p 148
- Pierre group. (See Fort Pierre group.)
- Pierres Hole, Idaho, geology near ..... H, Ann 11, pp 438-441
- Pierres Mountains, Idaho, geology of ..... H, Ann 11, pp 425-432
- Pigs, solid-hoofed, apparently established in Texas, discussion of ..... H, Bull,  
vol IV, No 1, pp 295-297  
(See, also, Vertebrates.)
- Pinal Mountains, Arizona, mines in, notes on ..... W, 1871, pp 56-59
- Pine, insects injuring ..... H, Ann 10, pp 527-531
- Pine timber, destruction of, in Rocky Mountains ..... H, Ann 7, pp 538-539
- Piney Creek, Wyoming, geology near ..... H, Ann 11, p 529
- Pinnipeds, history of North American ..... H, Misc 12  
(See, also, Vertebrates.)
- Piñon Range, Nevada, geology of ..... K, II, pp 551-564
- Pinos Altos mining district, New Mexico, notes on ..... W, 1879, p 195
- Pioche, Nevada, astronomical determinations at ..... W, II, pp 75-96
- Pipes, stone, from graves of southern California ..... W, VII, pp 125-134  
(See, also, Ethnology and archæology.)
- Piskauas language, vocabulary of ..... Eth, I, pp 249-265  
(See, also, Ethnology and archæology.)
- Placers in Idaho, Iowa Gulch ..... H, Ann 11, pp 404-405
- Placerville district, California, notes on ..... W, 1878, pp 82-84
- Placiére Mountains, New Mexico, geology of ..... H, Ann 3, pp 66-68;  
H, Ann 1-3, pp 166-168

- Plagopterinæ and ichthyology of Utah ..... W, Uncl 8  
 (See, also, Vertebrates.)
- Plains. (See Great Plains.)
- Plants; Agrostis, North American species of, preliminary list and descriptions  
     of ..... H, Bull, vol vi, No 1, pp 149-164  
     collected in Dakota and Montana in 1873 and 1874, along forty-ninth  
     parallel, catalogue of ..... H, Bull, vol iv, No 4, pp 801-830  
     in Colorado, Wyoming, and New Mexico, catalogue of ..... H, Ann 4, pp 472-487  
     in Nevada, Arizona, and Utah, list of ..... W, Uncl 5, pp 5-19  
     in Nevada, Utah, Colorado, New Mexico, and Arizona, catalogue of,  
     with descriptions of new species ..... W, vi, pp 53-297  
     in Idaho, Utah, Montana, and Wyoming ..... H, Ann 6, pp 747-792  
     near Yellowstone River, in 1871, catalogue of ..... H, Ann 5, pp 477-498
- ferns of the Southwest ..... W, vi, pp 299-340
- Musci of the Southwest ..... W, vi, pp 341-351
- of Arizona and New Mexico, geographical distribution of ..... W, iii, pp 603-605  
     of medical and technical use, list of ..... W, iii, pp 607-609
- of Black Hills ..... BH, pp 529-537
- of California, Mohave Desert, geographical distribution of ..... W, 1876, pp 222-224
- of Colorado ..... W, vi, pp 1-14  
     of central, preliminary report on and list of ..... W, Uncl 5, pp 23-62  
     southwestern ..... H, Bull, vol ii, No 3, pp 227-248  
     synopsis of ..... H, Mis 4
- of Great Basin ..... K, v  
     of New Mexico ..... W, vi, pp 15-37
- of Rocky Mountain region ..... H, Bull, vol vi, No 1, pp 1-77
- pine, Monohammus, description of ..... H, Ann 10, pp 528-531
- Plants and agriculture of portions of southern California, report on ..... W, 1876,  
     pp 202-213
- Plants, fossil, enumeration and description of, from specimens obtained in  
     1870 and 1871 ..... H, Ann 5, pp 283-303
- forest in volcanic Tertiary formation of Yellowstone Park ..... H, Bull,  
     vol v, No 1, pp 125-132
- of Black Hills ..... BH, pp 331-333; PBH, pp 7-9
- of Colorado; Denver, Golden, Raton Pass, and Purgatory Canyon ..... H, Ann 3,  
     pp 96-97; H, Ann 1-3, pp 196-197
- of Cretaceous of North America, review of ..... H, Ann 8, pp 316-365
- of Cretaceous and Tertiary formations of Kansas and Nebraska ..... H, Ann 4,  
     pp 370-385
- of North America, catalogue of ..... H, Ann 10, pp 487-520
- of western Territories ..... H, Mon viii  
     illustrations of ..... H, Uncl 15
- of Dakota group, general characters and relation of ..... H, Bull,  
     vol i, ser 1, No 2, pp 52-62
- new species of ..... H, Bull, vol i, ser 2, No 5, pp 391-400
- of western Territories ..... H, Mon vi
- of Eocene, general characters of ..... H, Ann 6, pp 343-350
- of Green River group ..... H, Mon viii, pp 127-217
- of Lignitic formation ..... H, Ann 7, pp 365-425;  
     H, Ann 8, pp 275-315; H, Bull, vol i, ser 2, No 5, pp 363-389
- of North America, review of ..... H, Bull, vol i, ser 2, No 5, pp 233-248
- of Primordial rocks of Arizona ..... W, Uncl 6, pp 5-6
- of Tertiary ..... H, Ann 5, Supp

- Plants, fossil, of Tertiary, distribution in different groups.....H, Ann 7, pp 378-390  
of Tertiary of North America .....H, Ann 5, pp 304-318  
of western Territories .....H, Mon vii  
enumeration and description of .....H, Ann 6, pp 371-427  
of Tertiary and Cretaceous of the western Territories.....H, Mon viii  
of Wyoming, Rock Creek .....H, Ann 3, p 95; H, Ann 1-3, p 195  
preservation of, mode of.....H, Ann 4, pp 370-373  
relation to actual domain of man and to our present civilization.....H, Ann 4,  
pp 373-377
- Plateau province, invertebrate paleontology of .....UM, pp 74-135  
sedimentary rocks of .....UM, pp 37-73  
structure of .....UM, pp 25-26
- Plateau region of Arizona and New Mexico, geology of .....W, iii, pp 542-567
- Pliocene rocks of Colorado, northern, vertebrate paleontology of .....H, Bull,  
vol i, ser 1, No 1, pp 9-28  
of Fortieth Parallel region.....K, i, pp 425-443  
of Kansas .....H, Ann 9, pp 278-280; H, Bull, vol ii, No 3, pp 212-213  
of Wyoming, plains .....K, ii, pp 67-71
- Pliocene and Eocene lacustrine formations of New Mexico, notes on, including  
descriptions of certain new species of vertebrates..W, 1874, pp 115-130
- Point of Rocks group, exposures of .....UM, pp 47-49  
of Uinta Mountains.....UM, pp 155-157
- Polybori, monograph on .....H, Bull, vol i, ser 2, No 6, pp 451-473  
(See, also, Vertebrates.)
- Porter (T. C.), catalogue of plants collected in Wyoming and Colorado...H, Ann 4,  
pp 472-483  
catalogue of plants collected near Yellowstone River in 1871.....H, Ann 5,  
pp 477-498  
descriptions of plants collected in Nevada, Utah, Arizona, New Mexico,  
and Colorado .....W, vi,  
pp 197-204, 209-217, 221-225, 228-232, 369, 370-371, 372-373
- Porter (T. C.) and Coulter (J. M.), synopsis of the flora of Colorado....H, Misc 4
- Portneuf River, Idaho, geology near .....H, Ann 11, pp 563-567
- Portneuf Range, Idaho, geology of .....H, Ann 11, pp 328, 567-569
- Porphroid, analysis of, from Nevada, Cottonwood Canyon .....K, ii, p 722
- Porphry of Colorado .....H, Ann 10, p 209  
of Nevada, Goose Creek Hills.....K, i, pp 55-56
- Potsdam group, invertebrates of Fortieth Parallel region.....K, iv, pp 205-231  
of Black Hills .....BH, pp 80-107  
of Colorado, Eagle and Grand rivers .....H, Ann 8, pp 110-111  
of Wyoming, Rawlings Peak, vicinity of.....H, Ann 11, p 119  
Sweetwater Valley .....H, Ann 11, pp 101-102  
Wind River Range.....H, Ann 11, pp 70-71
- Pottery, implements, etc., obtained in New Mexico and Arizona..W, vii, pp 374-390  
(See, also, Ethnology and archæology.)
- Pottery of Colorado, San Juan Valley, of ancient tribes of...H, Ann 10, pp 403-408  
of Colorado, southwestern.....H, Bull, vol ii, No 1, pp 21-24  
(See, also, Ethnology and archæology.)
- Powell (J. W.), exploration of the Colorado River of the West and its tribu-  
taries .....ECR  
geology of the eastern portion of the Uinta Mountains.....UM  
lands of the arid region.....AL
- Powers (S.), tribes of California.....Eth, iii
- Preuss Range, Idaho, geology of .....H, Ann 11, pp 589-590

- Price (P. M.), report of ..... W, 1875, pp 40-41
- Primitive art in the Bridger Basin of southern Wyoming ..... II, Ann 6, pp 651-653  
(See, also, Ethnology and archaeology.)
- Primordial invertebrate fossils of Black Hills ..... BH, pp 333-344; PBH, pp 8-11  
of Southwest ..... W, iv, pp 32-49  
of Utah and Nevada ..... W, Uncl 6, pp 6-8
- Profiles of mountain ranges along the fortieth parallel ..... K, i, p 16
- Profiles, sections, and other illustrations in Rocky Mountain region ..... H, Uncl 3
- Propylite, analyses of, from Nevada, Comstock lode ..... K, iii, pp 89, 90  
analysis of, from Nevada, Montezuma Range ..... K, ii, p 763  
from Nevada, Ragans Valley ..... K, ii, p 679  
Sheep Corral Canyon ..... K, ii, p 839  
Storm Canyon ..... K, ii, p 662  
Washoe, Fish Creek Mountains, Virginia Range, and near Truckee  
Range ..... K, i, p 560  
Virginia Range ..... K, vi, p 116  
from Utah, Sevier Plateau ..... W, iii, p 650  
of Nevada, microscopic petrography of ..... K, vi, pp 110-116  
Washoe district ..... K, iii, pp 25-30  
of Nevada Plateau ..... K, i, pp 550-557  
thin section of, from Nevada, Tuscarora ..... K, vi, pl 4
- Propylite and andesite, characteristics of ..... HP, pp 108-110
- Prozoic rocks of Wyoming, Sweetwater Valley ..... H, Ann 11, pp 96-98  
of Wyoming, Wind River Range ..... H, Ann 11, p 66
- Ptarmigan, white-tailed, breeding habits, nests and eggs of ..... H, Bull,  
vol i, ser 2, No 5, pp 263-266  
(See, also, Vertebrates.)
- Public lands, organization, cost, survey, etc., of ..... W, i, pp 405-413
- Pueblo at Acoma, New Mexico ..... W, vii, pp 325-326  
(See, also, Ethnology and archaeology.)
- Pueblos and their inhabitants, notes on ..... W, vii, pp 319-324  
(See, also, Ethnology and archaeology.)
- Pueblo languages of New Mexico, report on ..... W, 1875, pp 180-187  
(See, also, Ethnology and archaeology.)
- Puerco group, distribution of ..... H, Mon iii, pp 4-5  
vertebrata of Wasatch and Bridger groups and ..... H, Mon iii, pp 49-742
- Purgatory River region, Colorado, agricultural resources of ..... W, iii, Supp,  
pp 379-381  
geology of ..... W, iii, Supp, pp 195-224
- Putnam (F. W.), Pueblo ruins and the interior tribes ..... W, vii, pp 315-397  
reports upon archaeological and ethnological collections ..... W, vii, pp 1-314
- Putnam, Mount, Idaho, geology near ..... H, Ann 11, p 328
- Pyralidæ, preliminary studies on North American ..... H, Bull, vol iv, No 3,  
pp 669-705  
(See, also, Invertebrates.)
- Pythonomorpha, discussion of Owen's paper on ..... H, Bull, vol iv, No 1, pp 299-311  
(See, also, Vertebrates.)
- Quartz, analysis of, from Colorado, Elk Mountain ..... K, ii, p 103
- Quartz-propylite, analysis of, from Nevada, Cortez Peak ..... K, ii, p 578; K, vi, p 119  
analysis of, from Nevada, Golconda ..... K, vi, p 118  
from Nevada, Pyramid Lake region ..... K, ii, p 845  
Virginia Range and vicinity of Havallah Mountain and American  
Flat ..... K, i, p 560

- Quartz-propylite of Nevada, microscopic petrography of .....K, vi, pp 117-121  
of Nevada Plateau.....K, i, pp 557-561
- Quartzite, analysis of, from Nevada, Antler Peak, vicinity of .....K, ii, p 669  
analysis of, from Nevada, Carico Point.....K, i, p 542  
from Nevada, Pilot Peak.....K, i, p 542  
from Utah, Farmington.....K, ii, p 380  
La Motte Peak.....K, ii, p 324  
various localities.....K, i, p 542  
of Black Hill, petrography of.....BH, pp 471-476
- Quaternary lakes of California, southeastern.....W, 1876, pp 177-179
- Quaternary rocks of Basin Ranges.....W, iii, p 172  
of Fortieth Parallel region.....K, i, pp 459-529
- Quebec group of Colorado, Eagle and Grand rivers.....H, Ann 8, pp 111-113  
of Wyoming, western.....H, Ann 11, pp 481-484
- Rabbit Valley, Utah, geology of.....HP, pp 276-279
- Raft River Mountains, Utah, granite of.....K, i, pp 54-55
- Railroads, elevations along....H, Bull, vol v, No 3, pp 441-453; H, Misc 1, pp 5-17;  
H, Misc 1 (3d ed), pp 39-52; H, Misc 1 (4th ed), pp 6-51
- Rainfall in western portion of United States.....AL, pp 46-56
- Rapid Creek, South Dakota, mineral resources of.....BH, pp 267-272
- Rattlesnake Canyon district, Nevada, notes on.....W, 1871, p 39
- Rau (C.), observations on cup-shaped and other lapidarian sculptures in the  
Old World and in America.....Eth, v
- Rawlings Peak, Wyoming, geology near.....K, ii, pp 160-164  
Paleozoic rocks of.....K, i, pp 136-138
- Rawlings Springs, Wyoming, geology near.....LOR, 1868,  
pp 249-250; H, Ann 2, pp 96-97
- Red Beds of Black Hills.....BH, pp 131-151  
of Colorado, Front Range.....H, Ann 8, pp 42-44  
White River district.....H, Ann 10, pp 72-73
- Red Creek, Colorado, Archean rocks of.....K, ii, pp 269-271
- Red Creek, Wyoming, geology near.....H, Ann 4, pp 66-68
- Red Mountain and Silver Peak districts, Nevada, notes on.....W, 1871, pp 48-49
- Red Wall group, exposures of.....UM, p 55  
of Uinta Mountains.....UM, pp 147-148
- Red Wall limestone of Basin Ranges.....W, iii, pp 178-179
- Reese River, Nevada, mining and milling at.....K, iii, pp 349-408  
region east of, geology of.....K, ii, pp 627-635
- Reptiles and batrachians collected in California, Arizona, and Nevada.....W, 1878,  
pp 206-226  
collected in portions of Nevada, Utah, California, Colorado, New Mexico,  
and Arizona.....W, v, pp 509-584  
of Arizona, synopsis of.....W, v, pp 585-633  
of Permian beds of Texas, some new.....H, Bull, vol vi, No 1, pp 79-82  
(See, also, Vertebrates; Vertebrates, fossil.)
- Reptiles and fishes collected in Idaho, Montana, Wyoming, and Utah....H, Ann 5,  
pp 467-476  
of Cretaceous rocks of Kansas.....H, Ann 4, pp 385-425  
report on.....H, Ann 4, pp 432-442  
(See, also, Vertebrates; Vertebrates, fossil.)
- Reveille district, Nevada, notes on.....W, 1871, p 42
- Rhinocerotidae of North America, extinct species of, and their allies.....H, Bull,  
vol v, No 2, pp 227-237

(See, also, Vertebrates, fossil.)

- Rhizopods, fresh-water, of North America ..... H, Mon xii  
(See, also, Invertebrates.)
- Rhoda (F.), report on topography of the San Juan country ..... H, Ann 8,  
pp 451-496; H, Bull, vol i, ser 2, No 3, pp 165-210  
topographical report on southeastern district ..... H, Ann 9, pp 302-333
- Rhyolite, analysis of, from Arizona, Peloncillo Mountains ..... W, III, pp 648, 651  
analyses of, from California, Lassen Peak ..... K, i, p 652  
from Nevada, Bayless Canyon ..... K, II, p 763  
Belmont ..... W, III, pp 649, 651  
McKinneys Pass ..... K, II, p 695  
Montezuma Range ..... K, II, p 758  
Montezuma, Pah-Ute, Fish Creek, and West Humboldt ranges .. K, i,  
p 652  
Mopung Hills ..... K, II, p 736  
Mount Moses ..... K, II, p 664  
Sou Spring Hills ..... K, II, p 698  
from New Mexico, Burro Mountains ..... W, III, pp 649, 651  
of Arizona and New Mexico ..... W, III, pp 640-644  
of Basin Ranges ..... W, III, pp 255-256  
of Black Hills, petrography of ..... BH, pp 484-488, 495-503, 511  
of Colorado, occurrence and character of ..... H, Ann 10, pp 229-232  
of Nevada ..... K, i, pp 608-652  
of Nevada and Utah, microscopic petrography of ..... K, VI, pp 163-205  
of Rocky Mountains ..... K, i, pp 605-608  
thin section of, from Black Hills ..... BH, p 528  
from Nevada, various localities ..... K, VI, pls 6, 7, 8, 12
- Rhyolites, characteristics of ..... HP, pp 103-104
- Ridge Bar mining camp, California, notes on ..... W, 1879, p 188
- Ridgway (R.), monograph of the genus *Leucosticte* Swainson, or gray-crowned  
purple finches ..... H, Bull, vol i, ser 2, No 2, pp 51-82  
ornithology of Fortieth Parallel region ..... K, IV, pp 303-643  
ornithology of Guadeloupe Island, based on notes and collections made  
by Dr. Edward Palmer ..... H, Bull, vol II, No 2, pp 183-195  
outlines of a natural arrangement of the Falconidæ ..... H, Bull,  
vol i, ser 2, No 4, pp 225-231  
studies of the American Falconidæ ..... H, Bull, vol II, No 2, pp 91-182  
studies of the American Falconidæ: Monograph of the Polybori ..... H, Bull,  
vol i, ser 2, No 6, pp 451-473  
studies of the American Herodiones: Part I. Synopsis of the American  
genera of Ardeidæ and Ciconiidæ; including descriptions of three  
new genera, and a monograph of the American species of the  
genus *Ardea*, Linn ..... H, Bull, vol IV, No 1, pp 219-251
- Riggs (S. R.), Dakota-English dictionary ..... Eth, VII  
Dakota grammar, texts and ethnography ..... Eth, IX
- Riley (C. V.) and Monell (J.), Notes on the Aphididæ of the United States,  
with descriptions of species occurring west of the Mississippi .. H, Bull,  
vol v, No 1, pp 1-32
- Rio Grande, Texas, birds of ..... H, Bull,  
vol IV, No 1, pp 1-66; H, Bull, vol v, No 3, pp 371-440
- Rio Grande Basin, Colorado, geology of ..... H, Ann 9, pp 153-167
- Rio Grande region, New Mexico, agricultural resources of .. W, III, Supp, pp 362-373  
geology of ..... W, III, Supp, pp 313-353
- Rio Grande Valley, New Mexico, agriculture in ..... H, Ann 4, pp 204-207  
geology of ..... W, 1875, pp 64-68, 76-78

- Rio Grande del Norte, New Mexico, agriculture in valley of.....W, III, pp 574-578
- Rivers, profiles of.....H, Miscel I, pp 37-46;  
H, Miscel I (3d ed), pp 31-37; H, Miscel I, (4th ed), pp 145-159
- Roads and trails in Colorado.....H, Ann 8, pp 428, 439-441; H, Ann 9, pp 347-350  
in Wyoming, Sweetwater district.....H, Ann 11, pp 57-58
- Roan or Book Cliffs, Utah, geology of.....H, Ann 10, pp 173-176
- Robbins (J. W.), Potamogeton of Great Basin.....K, v, pp 337-340
- Roberts (S. R.), report on Mollusca.....H, Ann 4, pp 467-469
- Rock (Miles), report of.....W, 1879, pp 268-270
- Rock Canyon. (See Spring Canyon.)
- Rocky Mountains, coals of.....H, Ann 4, pp 179-186
- Coleoptera of alpine regions of.....H, Bull,  
vol IV, No 2, pp 447-480; H, Bull, vol V, No 3, pp 499-520
- elevation of, near Missouri River, period of.....H, Uncl 16, pp 9-13
- flora of.....H, Bull, vol VI, No 1, pp 1-77
- geological formations along eastern margins of.....H, Uncl 16, pp 13-16
- of Colorado, notes on.....H, Bull, vol I, ser I, No 2, pp 72-77
- Paleozoic rocks of.....K, I, pp 127-139
- Primordial sandstone of, in northwestern Territories.....H, Uncl 16, pp 16-21
- structure and age of.....W, III, pp 488-501
- topographic features of crest of, south of Tennessee Pass..H, Ann 9, pp 373-377
- Rodentia, North American, monograph on.....H, Mon XI
- of Miocene of North America, review of.....H, Bull, vol VI, No 2, pp 361-386  
(See, also, Vertebrates; Vertebrates, fossil.)
- Roscoelite, analysis of, from Colorado, Boulder County.....H, Ann 10, p 150
- Rose Spring district, California, notes on.....W, 1876, pp 65-66
- Ross Fork, Idaho, geology along.....H, Ann 11, pp 328-329
- Rothrock (J. T.), preliminary botanical report on portions of New Mexico  
and Arizona.....W, 1875, pp 117-129
- preliminary report on the botany of central Colorado.....W, Uncl 5, pp 23-62
- report upon economic botany and agriculture of portions of southern Cali-  
fornia.....W, 1876, pp 202-213
- reports upon the botanical collections made in portions of Nevada, Utah,  
California, Colorado, New Mexico, and Arizona, 1871-1875....W, VI
- Ruby Range, Nevada, geology of.....K, II, pp 489-491
- Ruins, ancient, human remains found among, in southwestern Colorado and  
northern New Mexico.....H, Bull, vol II, No 1, pp 47-63
- in Arizona, Chelly Canyon.....W, VII, pp 372-373; H, Ann 10, pp 420-425
- in Colorado, southwestern..H, Ann 8, pp 367-381; H, Ann 10, pp 383-452; H, Bull,  
vol I, ser 2, No 1, pp 17-30; H, Bull, vol II, No 1, pp 3-24
- in New Mexico.....W, VII, pp 337-345; W, 1875, pp 174-178
- Chaco Canyon.....W, VII, pp 366-369
- Las Animas River region.....W, VII, pp 347-350; W, 1875, pp 178-180
- in Utah and Arizona, San Juan River region.....H, Bull, vol II, No 1, pp 25-45  
(See, also, Ethnology and archæology.)
- Safford (T. H.), Catalogue of the mean declination of 2,018 stars.....W, Uncl 15
- Safford (T. H.), Kampf (F.), Clark (J. H.), and Maryatt (W. W.), astron-  
omical determinations in Nevada, Utah, Montana, Wyoming, Nebraska,  
Colorado, and New Mexico, 1872-1874.....W, II, pp 1-491
- Saguache Range, Colorado. (See Sawatch Range.)
- St. George, Utah, geology between Gila River, Arizona, and.....W, III, pp 189-225
- St. John (O.), notes on the geology of northeastern New Mexico.....H, Bull,  
vol II, No 4, pp 279-308
- report of the geological field work of Teton division.....H, Ann 11, pp 323-508
- report on the geology of the Wind River district.....H, Ann 12, I, pp 173-269

- St. John (O. H.), Descriptions of fossil fishes from the Upper Coal Measures of Nebraska.....H, Uncl 1, pp 239-245
- St. Marys, Wyoming, geology near.....LOR, 1868, pp 248-249; H, Ann 2, pp 95-96
- St. Vrain Creek, Colorado, geology near.....H, Ann 3, pp 27-28; H, Ann 1-3, pp 127-128
- Salamander of Florida, notes on.....ECR, pp 282-285
- Salt, analysis of, from California, southeastern.....W, 1876, p 176
- analysis of, from Colorado, Bear Creek.....H, Ann 7, p 102; H, Ann 9, p 203
- from Nevada, Columbus.....W, 1876, p 176
- from New Mexico.....W, III, Supp, p 397
- Zandia Mountains, salt lake near.....W, III, p 627
- from Wyoming, Percy, vicinity of.....K, II, p 148
- in Utah.....W, III, p 263
- Salt basins of Nebraska, Lancaster County.....LOR, 1867, pp 130-131; H, Ann 1, pp 8-10
- Salt deposit, analysis of, from Arizona, Sunset Crossing.....W, III, p 628
- Salt efflorescence, analysis of, from Arizona, Croton Springs, and Santa Catalina.....W, III, p 629
- Salt Lake. (See Great Salt Lake.)
- Salt River, Wyoming, geology near.....H, Ann 11, pp 551-556
- Salt River Range, Wyoming, geology of.....H, Ann 11, pp 545-551
- Salt Wells group, exposures of.....UM, pp 49-50
- of Uinta Mountains.....UM, p 154
- San Antonio mining district, California, notes on.....W, 1879, p 190
- San Antonio mining district, Nevada, notes on.....W, 1871, pp 45-46
- San Emidio district, California, notes on.....W, 1876, pp 51-52
- San Fernando, California, geology of vicinity of.....W, 1876, pp 160-166
- San Gabriel mining district, California, notes on.....W, 1879, p 189
- San Juan, pueblo of, description of.....W, VII, p 331
- San Juan Mountains, Colorado, geology of.....W, 1875, pp 100-101
- San Juan region, Colorado, communication between Denver and, means of. H, Bull, vol I, ser 2, No 3, pp 145-149
- geology of.....H, Ann 8, pp 187-240;
- H, Ann 9, pp 241-276; H, Bull, vol I, ser 2, No 3, pp 151-164
- mines of.....H, Ann 8, pp 229-238; H, Bull, vol I, ser 2, No 3, pp 151-164
- topography of.....H, Ann 8, pp 451-496;
- H, Ann 9, pp 353-368; H, Bull, vol I, ser 2, No 3, pp 165-210
- San Juan River, Colorado, geology of basin of.....H, Ann 9, pp 167-171, 176-191, 248-251
- San Juan River, Colorado, ruins and cave dwellings near.....H, Ann 10, pp 388-390, 415-420; H, Bull, vol II, No 1, pp 7-10, 25-45
- San Juan River, New Mexico, ruins of houses of Indians on.....Eth, IV, pp 154-197
- San Luis district, Colorado, geology of.....H, Ann 7, pp 305-351
- San Luis Valley, Colorado, agriculture in.....H, Ann 4, pp 197-202
- cultivable areas in.....H, Ann 10, pp 328-330
- features of.....W, 1876, pp 86-88
- geology and topography of.....H, Ann 9, pp 140-149
- San Miguel Mountains, Colorado, geology of.....H, Ann 10, pp 193-195
- San Miguel region, Colorado, physical features of.....W, 1876, pp 98-100
- Sand, analysis of, from Utah, Great Salt Lake.....K, II, p 435
- Sand hills of Nebraska, description of.....H, Ann 4, pp 108-115
- Sandstone, analysis of, from Colorado, Big Thompson Canyon.....K, II, p 35
- analysis of, from Colorado, Browns Hole.....K, I, p 542
- from Colorado, Browns Park.....K, II, p 223



- Sandstone, analysis of, from Nevada, Battle Mountain.....K, I, p 542  
 analysis of, from Nevada, West Humboldt Mountains.....K, I, p 542  
 from Utah, Ashley Creek.....K, I, p 542  
 Cache Valley.....K, I, p 542  
 Cottonwood Canyon, vicinity of.....K, I, p 542  
 Duchesne Fork.....K, II, p 304  
 Parleys Canyon.....K, I, p 542  
 Three Lakes.....K, I, p 542  
 Uinta Mountains.....K, I, p 542  
 Weber Canyon.....K, I, p 542  
 from Wyoming, Black Butte.....K, I, p 542  
 Bridger Basin.....K, II, p 246  
 Cathedral Bluffs.....K, I, p 542  
 St. Marys Peak.....K, II, p 155; K, I, p 542  
 Wahlbach Spring.....K, II, p 41  
 Sangre de Cristo Range, Colorado, geology of.....H, Ann 9, pp 108-139  
 Sanidine-trachyte of Black Hills, petrography of.....BH, pp 496-499,  
 505-510, 512-514, 515-523  
 thin section of, from Black Hills.....BH, p 528  
 Santa Barbara, California, ethnological researches near.....W, VII, pp 32-47;  
 W, 1876, pp 312-321  
 Santa Barbara Islands, California, crania from, observations on...W, VII, pp 277-292  
 kjökkenmöddings and graves of a former population of.....H, Bull, vol III,  
 No 1, pp 37-56  
 Santa Clara Valley, California, irrigation in.....H, Ann 5, pp 269-271  
 Santa Cruz Island, California, physical features of.....W, 1876, pp 215-216  
 Santa Fe, New Mexico, astronomical determinations at.....W, II, pp 337-369  
 mines near.....H, Ann 3, pp 121-123; H, Ann 1-3, pp 119-121  
 Santa Fe marls of New Mexico, Galisteo Creek region.....W, III, Supp, pp 162-163  
 vertebrate paleontology of.....W, 1875, pp 68-76  
 Santa Monica Range, California, geology of.....W, 1876, pp 159-160  
 Savory Plateau region, Wyoming, geology of.....K, II, pp 164-166  
 Sawatch Range, Colorado, geology of.....H, Ann 9, pp 150-175  
 Schirmerite, analysis of, from Colorado, Gold Hill.....H, Ann 10, p 151  
 Schists, crystalline, genesis of granite and.....K, I, pp 112-121  
 of Fortieth Parallel region, microscopical petrography of.....K, VI, pp 14-38  
 Schit-zui language, vocabulary of.....Eth, I, pp 267-283  
 (See, also, Ethnology and archæology.)  
 Schmankeiwitsch (W. J.), contribution to a knowledge of the influence of  
 external conditions of life upon the organization of animals...H, Ann  
 12, I, pp 473-514  
 on the relation of *Artemia salina* Milne-Edwards to *Artemia muehlhausenii*  
 Milne-Edwards and to the genus *Branchipus* Schaefer....H, Ann 12,  
 I, pp 466-473  
 Schumacher (P.), method of manufacture of soapstone pots.....W, VII, pp 117-121  
 methods of making stone weapons.....H, Bull, vol III, No 3, pp 547-549  
 researches in the kjökkenmöddings and graves of a former population of  
 the coast of Oregon.....H, Bull, vol III, No 1, pp 27-35  
 researches in the kjökkenmöddings and graves of a former population of  
 the Santa Barbara Islands and the adjacent mainland.....H, Bull,  
 vol III, No 1, pp 37-56  
 Sciuri, synonymatic list of American.....H, Bull, vol IV, No 4, pp 877-887  
 (See, also, Vertebrates.)  
 Sciurus, revision of the genus.....H, Bull, vol VI, No 2, pp 301-307  
 (See, also, Vertebrates.)

- Scotland, primitive lapidarian sculptures in.....Eth, v, pp 9-15
- Scudder (S. H.), account of some insects of unusual interest from the Tertiary rocks of Colorado and Wyoming....H, Bull, vol iv, No 2, pp 519-543
- brief synopsis of North American earwigs, with an appendix on the fossil species.....H, Bull, vol ii, No 3, pp 249-260
- description of two species of Carabidæ found in the interglacial deposits of Scarboro Heights, near Toronto, Canada.....H, Bull, vol iii, No 4, pp 763-764
- first-discovered traces of fossil insects in the American Tertiaries.....H, Bull, vol iii, No 4, pp 741-762
- fossil Coleoptera from the Rocky Mountain Tertiaries.....H, Bull, vol ii, No 1, pp 77-87
- fossil insects of the Green River shales.....H, Bull, vol iv, No 4, pp 747-776
- fossil Orthoptera from the Rocky Mountain Tertiaries.....H, Bull, vol i, ser 2, No 6, pp 447-449
- list of Orthoptera collected by Dr. A. S. Packard in Colorado and the neighboring Territories in 1875.....H, Bull, vol ii, No 3, pp 261-267
- notes on Orthoptera collected in Nebraska.....H, Uncl 1, pp 249-261
- notice of a small collection of butterflies, made by Dr. A. S. Packard in Colorado and Utah in 1875.....H, Bull, vol ii, No 3, pp 269-270
- notice of the butterflies collected by Dr. Edward Palmer in the arid regions of southern Utah and northern Arizona during summer of 1877.....H, Bull, vol iv, No 1, pp 253-258
- report on Orthoptera collected in California, New Mexico, and Colorado..W, 1876, pp 278-295
- Tertiary insects of North America.....H, Mon xiii
- Tertiary lake basin at Florissant, Colorado, between South and Hayden parks...H, Ann 12, i, pp 271-293; H, Bull, vol vi, No 2, pp 279-300
- Tertiary Physopoda of Colorado.....H, Bull, vol i, ser 2, No 4, pp 221-223
- Sculptures made by Indians of California.....W, vii, pp 218-221
- Sea bears, seals, walruses, and sea lions, monograph of.....H, Miscel 12
- Secret Canyon district, Nevada, notes on.....W, 1871, p 37
- Section of a laccolite.....HM, fig 8 (p 19), fig 9 (p 20), fig 10 (p 21)
- of Shinarump group.....UM, p 53
- of Vermilion Cliff group.....UM, p 53
- of White Cliff group.....UM, p 53
- Section, geologic, in Alabama, Cretaceous rocks.....H, Mon ix, pp xxxix-xl
- in Arizona.....H, Ann 8, p 134
- Apache and Pinal mountains.....W, iii, fig 93 (p 221)
- Aubrey Cliff.....W, iii, fig 67 (p 163)
- Pink Cliff to.....W, iii, fig 22 (p 47)
- Boulder Canyon.....W, iii, fig 15 (p 35)
- Camp Apache, Gila River to.....W, iii, pl 4 (p 227)
- Little Colorado River to.....W, iii, pl 4 (p 227)
- vicinity of.....W, iii, fig 70 (p 165)
- Canyon Creek.....W, iii, fig 68 (p 164)
- Carriso Mountains, vicinity of.....H, Atlas, sheet xvii
- Carrizo Creek.....W, iii, fig 69 (p 164)
- Chiricahui Range.....W, iii, figs 146-148 (p 511), pp 512, 513
- Colorado River, near Camp Mohave.....W, 1876, p 122
- Rio Grande, New Mexico to.....W, iii, figs 119-122 (p 288)
- Diamond Creek fault.....W, iii, fig 31 (p 55)
- Ewell Spring.....W, iii, p 512
- Fort Wingate to Zufli Bluff.....W, iii, fig 118 (p 288)
- Gila River to Camp Apache.....W, iii, pl 4 (p 227)

|   |  |
|---|--|
| Section, geologic, in Arizona, Grand Canyon .....           | H, Ann 9, p 83;<br>W, III, fig 66 (p 162); UM, p 43, fig 10 (p 57), p 59 |
| in Arizona, Grand Canyon district .....                     | UM, fig 3 (p 14)   |
| Grand Wash fault .....                                      | W, III, fig 30 (p 54)  |
| Kaibab Plateau .....  | W, III, fig 29 (p 53)  |
| Kanab Canyon .....  | W, III, fig 65 (p 161)   |
| Labyrinth Canyon .....                                      | H, Ann 9, p 71   |
| Little Colorado River, Camp Apache to .....                 | W, III, pl iv (p 227)  |
| Verde River to .....  | W, III, pl iv (p 227)  |
| Natanes Plateau .....                                       | W, III, fig 150 (p 528)  |
| New River .....   | W, III, fig 89 (p 201)   |
| Oraybe .....  | W, III, p 277  |
| Painted Desert .....  | H, Ann 8, p 127  |
| Paria fold .....  | W, III, figs 27, 28 (p 52)   |
| San Carlos Valley .....                                     | W, III, fig 92 (p 220)   |
| San Francisco Mountain .....                                | W, III, fig. 42 (p 81)   |
| Tinnahkah Springs .....                                     | W, III, fig 87 (p 199), fig 88 (p 200)                                   |
| Truxton Springs .....                                       | W, III, fig 90 (p 203), p 204  |
| Verde River to Little Colorado .....                        | W, III, pl iv (p 227)  |
| Verde Valley .....  | W, III, fig 16 (p 36)  |
| Virgin Range to Paria fold .....                            | W, III, fig 26 (p 51)  |
| Zuñi Bluff to Fort Wingate .....                            | W, III, fig 118 (p 288)  |
| Zuñi Mountains .....  | W, III, figs 115-117 (p 286)   |
| Zuñi Valley .....   | W, III, fig 152 (p 533)  |
| in California, Canyon Springs .....                         | W, 1876, fig 1 (p 175)   |
| Colorado River at Fort Yuma .....                           | W, 1876, p 124   |
| Fort Tejon, vicinity of .....                               | W, 1876, fig 6 (p 168)   |
| Funeral Mountains .....                                     | W, III, fig 13 (p 34), fig 80 (p 170)                                    |
| Grapevine Canyon .....                                      | W, 1876, fig 3 (p 162), fig 4 (p 163)                                    |
| Inyo Range .....  | W, III, fig 14 (p 34)  |
| Owens Lake, vicinity of .....                               | W, 1876, fig 3 (p 180)   |
| Pilot Mountain .....  | W, III, fig 51 (p 124)   |
| Red Rock Canyon .....                                       | W, III, fig 56 (p 142)   |
| San Fernando, vicinity of .....                             | W, 1876, fig 2 (p 160)   |
| Santa Monica Range .....                                    | W, 1876, fig 1 (p 159)   |
| in Canada .....   | H, Bull, vol I, ser 2, No 5, p 372                                       |
| Porcupine Creek .....                                       | H, Bull, vol I, ser 2, No 5, p 373                                       |
| in Colorado, Alpine Plateau to Great Sage Plain, Utah ..... | H, Atlas, sheet xvii   |
| Animas River .....  | H, Ann 9, pl xxviii (p 189); H, Mon III, fig 2 (p 5)                     |
| Antelope Park to Abajo Mountains, Utah .....                | H, Atlas, sheet xvii   |
| Arapahoe Peak to Park Range .....                           | H, Ann 9, pl lviii (p 408)   |
| Arkansas River .....  | W, III, pp 359, 396; H, Ann 8, p 31                                      |
| Fairplay to .....   | H, Ann 9, pl lx (p 438)  |
| Arkansas Valley .....                                       | H, Ann 6, p 323; H, Ann 8, p 48; W, 1875, fig 1 (p 98)                   |
| Aspen Mountain uplift .....                                 | UM, Atlas  |
| Bald Peak .....   | W, III, p 357  |
| Battlement Mesa .....                                       | H, Ann 10, p 183   |
| Battlement Mesa to Book Cliffs .....                        | H, Ann 10, pl xii (p 184)  |
| Bear Canyon .....   | H, Ann 7, pl 1 (p 93), pp 99, 101, 103                                   |
| Bear Creek .....  | H, Ann 7, pl I (p 93), p 100   |
| Beaver Creek .....  | H, Ann 12, I, p 271; W, III, p 379                                       |
| Bergen Park .....   | H, Ann 7, p 207  |
| Big Thompson Creek .....                                    | H, Ann 7, p 98; K, I, p 300  |
| vicinity of .....   | H, Ann 3, p 25; H, Ann 1-3, p 125  |
| Bijou Creek .....   | H, Ann 11, p 189   |

- Section, geologic, in Colorado, Blue River Valley.....H, Ann 7, p 187  
 in Colorado, Book Plateau to White River Plateau .....H, Atlas, sheet xvii  
 Boulder, Marshall mine.....K, III, pp 481-483  
 Box Elder.....H, Ann 7, p 196  
 Box Elder Creek...H, Ann 3, p 19; H, Ann 1-3, p 119; K, I, p 251; K, II, p 38  
 Buckskin Gulch .....H, Ann 7, p 228  
 Buffalo Peak .....H, Ann 7, pl vi (p 212), p 237  
 Canyon.....H, Ann 8, p 69  
     vicinity of.....H, Ann 3, p 50; H, Ann 1-3, p 151; H, Ann 7, pl x  
     (p 314); H, Bull, vol I, ser 2, No 5, pp 249, 250; W, III, p 398  
 Capitol Peak to Sopris Peak.....H, Ann 7, pl xx (p 265)  
 Carr station, vicinity of .....K, II, p 61  
 Carriso Mountains.....H, Ann 9, pl XLVII (p 274)  
 Central City, vicinity of.....H, Ann 7, pl II (p 280)  
 Cheyenne Mountain.....H, Ann 9, pl LIII (p 360)  
 Cochetopa Creek.....H, Ann 7, pl XIV (p 339)  
 Colorado Springs, vicinity of.....H, Ann 8, p 40  
 Corral Peak to Park Range.....H, Ann 9, pl LVIII (p 408)  
 Cottonwood Park.....W, III, p 388  
 Crow Creek.....H, Ann 11, p 164  
 Dawson Butte to South Platte River.....H, Ann 9, pl LX (p 438)  
 Denver.....H, Ann 7, p 109  
     vicinity of.....H, Ann 6, p 327; H, Ann 7, p 121  
 Dolores Valley, showing relation of San Juan Valley to.....H, Ann 9,  
     pl XLIII (p 266)  
 Douglas Creek.....H, Ann 10, pl v (p 81)  
 Dry Creek.....H, Ann 7, fig 1 (p 96)  
 Eagle River.....H Ann 7,  
     pp 243-245; H, Ann 8, pl I (p 80), pl III (p 83),  
     pp 113, 115, 118, 122, 125, 129; W, III, pp 368-370  
     Hamilton to.....H, Ann 9, pl LX (p 438)  
     Ute Peak to.....H, Ann 9, pl LVIII (p 408)  
 Elk Mountains ....H, Ann 7, pl XVIII (p 258); H, Ann 8, fig 9 (p 69), p 73  
     Grand River Valley to .....H, Atlas, sheet xvii  
 Elkhead Mountains to Great Plains.....K, Atlas  
 Evans Range to South Platte River.....H, Ann 9, pl LX (p 438)  
 Fairplay to Arkansas River.....H, Ann 9, pl LX (p 438)  
 Florissant .....H, Ann 7, p 210; H, Bull vol VI, No 2, pp 284-285, 288  
     vicinity of...H, Ann 12, I, pp 275-276, 278; H, Mon VIII, pp 128, 132-133  
 Fourmile Creek to Horseshoe Mountain .....H, Ann 7, pp 229-233  
 Frazier Canyon.....H, Ann 7, p 164  
 Front Range.....H, Ann 7, pl v (p 208); K, I, p 305  
 Frying Pan Creek to Roaring Fork.....H, Ann 7, pl xx (p 265)  
 Georgia Pass.....H, Ann 7, p 213  
     Homestake Peak to.....H, Ann 9, pl LX (p 438)  
 Glen Eyrie.....H, Ann 7,  
     pl III (p 200), p 201, pl IV (p 204); H, Ann 8, pl VII (p 42)  
 Golden.....H, Ann 7, pl I (p 93), pp 109, 126, 127  
 Gothic Mountain.....H, Ann 8, pl XIV (p 54)  
 Grand Mesa to Book Cliffs.....H, Ann 10, pl XII (p 184)  
 Grand River.....H, Ann 8,  
     pl IV (p 88), pl VI (p 92), pp 113, 130, 137-138; H, Ann 10, p 171  
     Elk Mountain to.....H, Atlas, sheet xvii  
 Grand River district.....H, Ann 10, pl XII (p 184)

|   |   |
|---|---|
| Section, geologic, in Colorado, Great Plains, Elkhead Mountains, to ..... | K, Atlas  |
| in Colorado, Great Plains, westward from .....                            | H, Atlas, sheet xviii   |
| Greeley, vicinity of .....  | H, Ann 8, p 34  |
| Gunnison River .....  | H, Ann 8, pl vii (p 97), pl viii (p 102),<br>pl ix (p 105), pp 126, 131, 132, 133, 138, pl xiv (p 169); H, Ann 9, pl i (p 38) |
| Gunnison Valley .....   | H, Ann 10, pl xii (p 184)   |
| Hamilton, vicinity of .....   | W, iii, pp 391, 454   |
| Eagle River to .....  | H, Ann 9, pl lx (p 438)   |
| Homestake Peak to Georgia Pass .....                                      | H, Ann 9, pl lx (p 438)   |
| Hoosier Pass, vicinity of .....   | H, Ann 7, pl vi (p 212)   |
| Huerfano Park .....   | H, Ann 9, pl xiv (p 124)  |
| Iowa Gulch .....  | H, Ann 7, pl xi (p 234), pp 234-235; W, iii, p 371  |
| Italian Mountain .....  | H, Ann 7, pp 251-252  |
| James Peak to Whiteface Peak .....  | H, Ann 9, pl lviii (p 408)  |
| Junction Mountain .....   | UM, figs 1, 2 (p 10)  |
| La Plata Mountains .....  | H, Ann 9, pl xxxv (p 244), pl xlv (p 270)   |
| Laporte, vicinity of .....  | H, Ann 3, p 17; H, Ann 1-3, p 117   |
| Little Book Cliffs .....  | H, Ann 10, p 177  |
| Little Fountain Creek .....   | W, iii, p 379   |
| Little Platte River .....   | H, Ann 7, pl vi (p 212), pp 221-223, 224  |
| Little Thompson Creek .....   | H, Ann 7, pl i (p 93), pp 102, 103  |
| Lodore, canyon of .....   | UM, fig 14 (p 145)  |
| Longs Canyon .....  | W, iii, Supp, pp 211, 212   |
| coal bed in .....   | W, iii, Supp, pp 111, 113, 116  |
| Longs Peak to Mount Powell .....  | H, Ann 9, pl lviii (p 408)  |
| Mancos Canyon .....   | H, Ann 9, p 255   |
| Marshall .....  | H, Mon vii, pp 16-17  |
| Mesa Verde .....  | H, Ann 9, p 248, pl xl (p 254), pl liii (p 360)   |
| Mesa Verde group in Great Hogback .....                                   | H, Ann 9, p 252   |
| Middle Park, Blue River Valley .....                                      | H, Ann 7, pl iii (p 192)  |
| Grand River .....   | H, Ann 3, p 85; H, Ann 1-3, p 185   |
| Hot Springs .....   | H, Ann 7, pl iii (p 192)  |
| Hot Springs and Grand Lake roads, near junction .....                     | H, Ann 7,<br>fig 11 (p 163)   |
| Muddy River Valley .....  | H, Ann 7, pl iii (p 192)  |
| Montgomery, vicinity of .....   | H, Ann 7, p 225   |
| Monument Creek .....  | H, Ann 6, p 325   |
| Gehrunge's mine .....   | H, Ann 7, p 202   |
| vicinity of .....   | H, Ann 8, p 30  |
| Mosquito Gulch .....  | H, Ann 7, pp 228-229, pl vii (p 229)  |
| Mount Bross .....   | H, Ann 7, pl vi (p 212), p 302  |
| vicinity of .....   | H, Ann 7, p 225   |
| Mount Guyot, east of .....  | H, Ann 7, pl vi (p 212)   |
| Mount Lincoln .....   | H, Ann 7, p 227   |
| Mount Ouray .....   | H, Ann 7, p 338   |
| Mount Powell to Longs Peak .....  | H, Ann 9, pl lviii (p 408)  |
| Mount Silverheels .....   | H, Ann 7, pp 214-215  |
| Navajo River .....  | H, Ann 9, pl xxvi (p 186), pl xlvii (p 274)   |
| North Table Mountain .....  | H, Ann 7, p 130   |
| northern .....  | K, ii, p 41   |
| northwestern .....  | H, Ann 10, p 60   |
| Nutria River .....  | H, Ann 9, pl xxvii p 188  |
| O-Be Joyful Creek .....   | H, Ann 8, p 138   |
| Oil Creek Valley .....  | H, Ann 7, pl xii (p 316), fig 7 (p 317)   |

- Section, geologic, in Colorado, Pagosa Springs ..... H, Ann 9, pl xxiv (p 168)  
 in Colorado, Pagosa Springs, vicinity of ..... H, Ann 9, pl xxvi (p 186)  
 Park Range ..... H, Ann 9, pl lviii (p 408); UM, Atlas  
     Great Plains to ..... H, Atlas, sheet xviii  
 Plateau Creek ..... H, Ann 8, pp 156-157  
 Platteville, vicinity of ..... H, Ann 8, pp 33, 34  
 Pleasant Park ..... H, Ann 7, pp 197-198, pl ii (p 198), pl iv (p 204)  
 Pole Creek ..... H, Ann 3, p 93; H, Ann 1-3, p 193  
 Princeton Peak, vicinity of ..... H, Ann 7, pl viii (p 311)  
 Pulpit Rock, north of Colorado Springs ..... H, Ann 8, pl i (p 30)  
 Purgatory River ..... H, Ann 6, pp 319, 320;  
     H, Ann 9, pl xxix (p 194), p 195; W, iii,  
     Supp, pp 208, 213, 214, 215, 216, 217, 218, 219  
     coal bed on ..... W, iii, Supp, pp 109, 112, 118  
     vicinity of ..... H, Ann 9, pl xxxii (p 198)  
 Ralston Creek ..... H, Ann 7, pl i (p 93), p 99  
 Raton Creek ..... W, iii, Supp, pp 201, 202, 203, 204, 205, 207  
     coal bed on ..... W, iii, Supp, pp 117, 118  
 Reillys Canyon ..... W, iii, Supp, pp 208, 209, 210  
     coal bed on ..... W, iii, Supp, pp 115, 116  
 Roan Cliffs ..... H, Ann 10, p 183  
 Roaring Fork ..... H, Ann 7,  
     pl xix (p 263), pp 263-264; H, Ann 8, pl iv (p 88), p 125  
     Frying Pan Creek to ..... H, Ann 7, pl xx (p 265)  
 Rock Creek ..... H, Ann 7, p 258; W, iii, pp 362-364  
 Rocky Mountains, eastern base ..... H, Ann 7, pl ii (p 136)  
 Saguache Creek ..... H, Ann 8, p 136  
 Saguache Creek, vicinity of ..... W, iii, p 419  
 St. Vrain Creek ..... H, Ann 7, p 99  
 San Juan Mountains, Great Plains to ..... H, Atlas, sheet xviii  
     San Juan Valley, Utah, to ..... H, Atlas, sheet xvii  
 San Juan region ..... H, Ann 8, pp 214, 217, 218, 219, 223, 224, 226, 227  
 San Juan River ..... H, Mon iii, fig 3 (p 7)  
     Great Hogback to ..... H, Ann 9, p 251, pl xxxviii (p 252)  
 San Juan Valley ..... H, Ann 9, pls xxxv and xxxvi (p 244)  
     showing relation of Dolores Valley to ..... H, Ann 9, pl xliii (p 266)  
 San Luis district ..... H, Ann 7, pl viii (p 311), pl x (p 314), pl xiii (p 327)  
 San Miguel Mountains ..... H, Ann 9, pl xxxvi (p 244)  
     vicinity of ..... H, Atlas, sheet xvii  
 San Miguel Plateau ..... H, Ann 10, pl ix (p 168)  
 Sangre de Cristo Range ..... H, Atlas,  
     sheet xviii; H, Ann 7, pl xiii (p 327); H, Ann 9, pl ix  
     (p 114), pl x (p 118), pl xiii (p 122), pl xiv (p 124)  
 Sawatch Range to Great Plains ..... H, Atlas, sheet xviii  
 showing relations of sedimentary rocks of plains to Archean rocks of  
     mountains ..... H, Ann 7, fig 1 (p 96)  
 Sierra El Late, showing intrusion of trachyte ..... H, Ann 9, pl xlvii (p 272)  
 Sierra La Sal ..... H, Ann 9, pl vi (p 62)  
 Sopris Peak ..... H, Ann 8, p 61; fig 3 (p 62)  
     Capitol Peak to ..... H, Ann 7, pl xx (p 265)  
 South Boulder Creek ..... H, Ann 3,  
     pp 29-30; H, Ann 1-3, pp 129-130; H, Uncl 1, p 62  
 Marshall mine ..... H, Ann 7, pp 123-124

|  |   |
|--|---|
| Section, geologic, in Colorado, South Platte River ..... | H, Ann 7, pp 93, 101,<br>pl i (p 195), pl iv (p 204), pl vi (p 212), pp 216-218; H,<br>Bull, vol I, ser 2, No 5, p 403; W, III, Supp, pp 141, 142                 |
| in Colorado, South Platte River; Dawson Butte to.....    | H, Ann 9, pl LX (p 438)   |
| South Platte River, Evans Range to.....                  | H, Ann 9, pl LX (p 438)   |
| Spanish Peaks .....                                      | H, Ann 7, p 368   |
| Laramie group near.....                                  | W, 1879, p 278  |
| Spanish Peaks region.....                                | H, Atlas, sheet xviii   |
| Sultan Mountain, vicinity of .....                       | H, Ann 8, p 217   |
| Sunny Point.....   | K, I, p 385; K, II, p 220   |
| Taylor River.....  | W, III, pp 360, 365   |
| Teocalli Creek .....                                     | H, Ann 7, pp 253-254, pl xvi (p 254)  |
| Teocalli Mountain.....                                   | H, Ann 7, p 254   |
| Thompson Creek, vicinity of.....                         | H, Uncl 1, p 65   |
| Tousland .....   | H, Ann 8, p 33  |
| T. 5 N., R. 66 W., sec 12.....                           | H, Ann 8, p 38  |
| Trinidad, coal groups near.....                          | H, Ann 9, pl xxx (p 196)  |
| Munger and Bloomfield bank .....                         | H, Ann 9, pl xxx (p 196)  |
| Riffenburg bank .....                                    | H, Ann 9, pl xxx (p 196)  |
| vicinity of .....  | W, III, Supp, pp 198, 199, 200  |
| Trinidad coal field, Laramie group .....                 | W, III, Supp, pp 104-105  |
| Trout Creek .....  | H, Ann 7, pp 208, 209   |
| Turkey Creek .....                                       | W, III, p 380   |
| Uinta Range to Little Snake River.....                   | K, Atlas  |
| Unaweep Canyon .....                                     | H, Ann 9, pl iv (p 58)  |
| Uncompahgre Plateau.....                                 | H, Atlas,<br>sheet xvii; H, Ann 9, pl II (p 42), pl III (p 50)  |
| Ute Peak to Eagle River.....                             | H, Ann 9, pl LVIII (p 408)  |
| Valmont .....  | H, Ann 7, fig 2 (p 29)  |
| Walsenburg, vicinity of.....                             | H, Ann 9, pl xxx (p 196), p 197   |
| Westons Pass .....                                       | H, Ann 7, pl XII (p 237)  |
| White River, Yampa River to.....                         | H, Ann 10, pl XXVIII (p 363)  |
| White River district .....                               | H, Ann 10, pl III (p 73), pl IV (p 74)  |
| White River Plateau, Book Plateau to.....                | H, Atlas, sheet xvii  |
| Green River Valley to .....                              | H, Atlas, sheet xvii  |
| Whiteface Peak to James Peak .....                       | H, Ann 9, pl LVIII (p 408)  |
| Willow Creek .....                                       | H, Ann 7, pl I (p 195)  |
| Yampa district .....                                     | H, Ann 10,<br>pl I (p 19); H, Mon III, fig 4 (p 8); H, Atlas, sheet xvii  |
| Yampa Plateau .....                                      | H, Ann 10, p 60   |
| Yampa River to White River.....                          | H, Ann 10, pl XXVII (p 369), pl XXVIII (p 363)  |
| in Grand Canyon of Colorado River .....                  | W, III, figs<br>36-39 (p 69), fig 82 (p 196), fig 85 (p 198), fig 86 (p 199)  |
| in Idaho, Bannock Range.....                             | H, Ann 11, p 570  |
| Bear Lake Plateau.....                                   | H, Ann 11, pl LXX (p 584)   |
| Bear River to Thomas Fork .....                          | H, Ann 11, pl LXXI (p 586)  |
| Blackfoot Basin .....                                    | H, Ann 11, pl LXII (p 560), pl LXIII (p 562)  |
| Blackfoot Range.....                                     | H, Ann 11,<br>p 339, pl XIII (p 340), pl XIV (p 344), pp 347-349  |
| Blackfoot River to Portneuf River .....                  | H, Ann 11, pl X (p 334)   |
| Caribou Range.....                                       | H, Ann 11, pl XXII (p 378), pp 379-381,<br>pl XXIII (p 382), pp 383-384, 385-386, pl XXIV (p 386),<br>pp 389-390, pl XXVII (p 392), pp 393-400, pl XXVIII (p 394) |

- Section, geologic, in Idaho, eastern.....H, Ann 11, p 623
- in Idaho, Fall Creek, vicinity of .....H, Ann 11, pl xxii (p 378)
- Fall Creek, between Mosquito Creek and .....H, Ann 11, pl xviii (p 364)
- northeast border of.....H, Ann 11, pl xix (p 366), pp 366-370
- Grouse Creek, vicinity of .....H, Ann 11, pl xx (p 372), p 377
- Highams Peak .....H, Ann 11, p 336, pl ii (p 336)
- John Gray Creek, north of .....H, Ann 11, pl xxviii (p 364)
- John Gray Lake, vicinity of .....H, Ann 11, p 358
- Lincoln Valley.....H, Ann 11, p 331
- Malade Range.....H, Ann 11, p 606, pl lxxvi (p 608)
- McCoy Creek...H, Ann 11, pl xxvii (p 392), pp 393-400, pl xxviii (p 394)
- Middle Creek Valley.....H, Ann 11, pl lxi (p 558)
- Mosquito Creek, between Fall Creek and.....H, Ann 11, pl xviii (p 364)
- Mount Putnam Ridge.....H, Ann 11, pl viii (p 328)
- Pierre Mountains.....H, Ann 11, pl xxxviii (p 426), pp 426-427, 430-431
- Portneuf Range .....H, Ann 11, p 568
- Portneuf region .....H, Ann 11, pl lxxv (p 566)
- Portneuf River to Blackfoot River .....H, Ann 11, pl x (p 334)
- Ross Fork.....H, Ann 11, pl viii (p 328), pp 333-334, pl x (p 334)
- Smith Fork to Thomas Fork .....H, Ann 11, pl lxxix (p 582)
- Snake River, vicinity of .....H, Ann 11, pl xxii (p 378), pp 379-381;  
pl xxiii (p 382), pp 383-384, 385-386, pl xxiv (p 386)
- Snake River Valley, Lower .....H, Ann 11, pl xxx (p 408)
- South Pyramid Creek .....H, Ann 11, pp 385-386, pl xxiv (p 386)
- southeastern and Wyoming, western.....H, Bull, vol v, No 1, p 120
- Thomas Fork to Bear River .....H, Ann 11, pl lxxxi (p 586)
- Three Deer Creek, vicinity of.....H, Ann 11,  
pl xx (p 372), pp 372-374, pl xxii (p 378), pp 379-381
- Willow Creek Basin.....H, Ann 11, pl xv (p 350), pl xvi (p 352)
- Willow Creek Ridge .....H, Ann 11, pp 352-353, 354-356
- in Kansas, Atchison .....H, Uncl 1, pp 121-122
- Riverside .....H, Uncl 1, pp 119-120
- St. Joseph .....H, Uncl 1, pp 117-118
- in Mississippi, Cretaceous rocks .....H, Mon ix, p xxxviii
- in Montana, Cinnabar Mountain .....H, Ann 6, pp 41-42
- Cinnabar Mountain, Gardiner River to.....H, Ann 6, fig 30 (p 121)
- Flathead Pass .....H, Ann 6, fig 24 (p 84)
- Fort Ellis, coal bed near .....H, Ann 6, fig 28 (p 114)
- Fort Union .....H, Mon ix, p lix
- Gallatin City, vicinity of .....H, Ann 6, pp 172-174
- Gallatin River, Madison River to.....H, Ann 6, fig 42 (p 164)
- Gardiner River, Cinnabar Mountain to.....H, Ann 6, fig 30 (p 121)
- Jackass Creek.....H, Ann 6, fig 41 (p 162), p 163
- Judith River.....H, Mon ix, p xlviii
- Madison River, Gallatin River to.....H, Ann 6, fig 42 (p 164)
- Missouri Valley, below Three Forks..H, Ann 6, figs 20, 21, 22 (pp 71, 72, 73)
- Soda Butte.....H, Ann 6, fig 6 (p 46)
- Spring Canyon.....H, Ann 6, fig 27 (p 110), pp 111-112
- Bridger Peak to.....H, Ann 6, fig 27a (p 113)
- in Nebraska, Ashland, vicinity of.....H, Uncl 1, p 38
- Aspinwall.....H, Uncl 1, pp 112-113
- Beatrice, vicinity of.....LOR, 1867, p 146; H, Ann 1, p 27
- Bellevue .....H, Uncl 1, p 89
- vicinity of.....LOR, 1867, p 159; H, Ann 1, p 41; H, Uncl 1, p 8



|   |  |
|---|--|
| Section, geologic, in Nebraska, Bennetts Mill ..... | H, Uncl 1, p 100   |
| in Nebraska, Big Blue River, vicinity of .....      | H, Uncl 1, p 28  |
| Blue Spring .....                                   | LOR, 1867, p 146; H, Ann 1, p 26; H, Uncl 1, p 27                            |
| Brownville .....                                    | H, Uncl 1, pp 110, 111-112   |
| Cedar Bluff .....                                   | H, Uncl 1, p 98  |
| Coal Creek .....                                    | H, Uncl 1, p 30  |
| Cretaceous rocks .....                              | LOR, 1867, p 167; H, Ann 1, p 49;<br>H, Ann 7, p 104; H, Mon ix, pp xxiv-xxv |
| Decatur, vicinity of .....                          | LOR, 1867, p 164; H, Ann 1, p 46; H, Uncl 1, pp 40, 41                       |
| Iowa Creek .....                                    | LOR, 1867, p 165; H, Ann 1, p 48; H, Uncl 1, p 43                            |
| Little Blue River .....                             | LOR, 1867, p 148; H, Ann 1, p 29; H, Uncl 1, pp 29-30                        |
| Nebraska City, at and near .....                    | H, Uncl 1, pp 101, 103, 105-107  |
| Nemaha River .....                                  | H, Uncl 1, p 22  |
| Omaha .....   | H, Uncl 1, p 87  |
| Otoe Agency .....                                   | LOR, 1867, p 145; H, Ann 1, p 5; H, Uncl 1, p 26                             |
| Otoe City .....                                     | H, Uncl 1, pp 107-108  |
| Pawnee City, vicinity of .....                      | H, Uncl 1, p 23  |
| Platte River .....                                  | H, Uncl 1, pp 90-91  |
| vicinity of .....                                   | LOR, 1867, pp 160, 161; H, Ann 1, pp 42, 43                                  |
| Plattsmouth .....                                   | H, Uncl 1, p 93  |
| Rock Bluff .....                                    | H, Uncl 1, pp 95-96  |
| Rulo, vicinity of .....                             | H, Uncl 1, pp 114, 115   |
| Salem .....   | H, Uncl 1, p 21  |
| vicinity of .....                                   | LOR, 1867, p 142; H, Ann 1, p 22   |
| Tecumseh .....                                      | H, Uncl 1, p 34  |
| Tertiary formations .....                           | LOR, 1867, p 173; H, Ann 1, p 56; H, Ann 4, p 93                             |
| Turners Branch .....                                | H, Uncl 1, p 22  |
| Weeping Water .....                                 | LOR, 1867, p 158; H, Ann 1, p 40; H, Uncl 1, p 14                            |
| Weeping Water River .....                           | H, Uncl 1, p 14  |
| White River .....                                   | H, Mon iii, pp 14-15   |
| White River group .....                             | H, Mon ix, p lxiii   |
| in Nebraska and Wyoming .....                       | H, Uncl 1, pp 99-100   |
| in Nevada, Amargosa Range .....                     | W, iii, fig 12 (p 33), p 169, fig 78 (p 170)                                 |
| Battle Mountains to Virginia Range .....            | K, Atlas   |
| Callville, vicinity of .....                        | W, 1876, fig 5 (p 182)   |
| Coal Creek .....                                    | K, ii, p 605   |
| Colorado River at Stones Ferry .....                | W, 1876, p 120   |
| Cortez Range to Gosiute Range .....                 | K, Atlas   |
| Inyo Range .....                                    | W, iii, p 169, fig 79 (p 170)  |
| Kawsoh Mountains .....                              | K, i, pp 415-416; K, ii, p 766   |
| Mokomoke Ridge to Treasure Peak .....               | K, ii, p 544   |
| Mount Worthington .....                             | W, iii, fig 17 (p 37)  |
| Ombe Mountains to Shoshone Mesa .....               | K, Atlas   |
| Pahranagat Range .....                              | W, iii, fig 18 (p 38), fig 76 (pp 168-169)                                   |
| Pine Mountains to Virgin Mountains .....            | W, iii, fig 99 (pp 247-248)  |
| Piñon Range .....                                   | K, ii, p 554   |
| Schell Creek Range .....                            | W, iii, fig 9 (p 31), fig 75 (pp 167-168)                                    |
| Shoshone Mesa to Ombe Mountains .....               | K, Atlas   |
| Shoshone Range to Virginia Range .....              | K, Atlas   |
| Snake Range .....                                   | W, iii, fig 98 (p 241)   |
| Spring Mountain Range .....                         | W, iii, fig 10 (p 32), fig 71 (p 166)  |
| Timpahute Range .....                               | W, iii, fig 19 (p 38), p 169   |
| Toyabe Range .....                                  | K, iii, pl xxvi (p 327)  |
| Treasure Peak to Mokomoke Ridge .....               | K, ii, p 544   |

- Section, geologic, in Nevada, Virgin Mountains to Pine Mountains ..... W, III,  
fig 99 (pp 247-248)
- in Nevada, Virginia Range, Battle Mountains to ..... K, Atlas
- Virginia Range, Shoshone Range to ..... K, Atlas
- Washoe district ..... K, III, pl I (p 18)
- Comstock lode ..... K, III, Atlas, pl XII
- Gold Hill mines ..... K, III, Atlas, pls III, VI, VIII, X, XI
- Virginia mines ..... K, III, Atlas, pls IV, V, VII, IX
- White Pine district ..... K, III, pl XXVIII (p 417)
- in New Jersey, Cretaceous rocks ..... H, Mon IX, p xli
- in New Mexico ..... H, Mon IX, p xxxvii
- Acoma, vicinity of ..... W, III, pp 553-554
- Arroyo de los Angeles ..... W, III, Supp, p 162
- Arroya San Cristobal ..... W, III, Supp, fig 2 (p 50)
- Bear Spring ..... W, III, pp 551-552
- Cameron, vicinity of ..... W, III, Supp,  
fig 34 (p 253), fig 35 (p 254), fig 36 (p 255), fig 37 (p 256)
- Canadian River ..... W, III, Supp, fig 39 (p 266), pp 267, 268,  
fig 40 (p 268), fig 41 (p 269), fig 42 (p 270), fig 43 (p 271)
- coal bed on ..... W, III, Supp, pp 107, 108, 117, 121
- Cebolla Creek ..... W, III, Supp, fig 9 (p 57)
- Covero, buttes near ..... W, III, fig 155 (p 535)
- Coyote Creek ..... W, III, Supp, figs 4, 5, 6 (pp 55, 56), pp 76, 291, 293
- Crow Creek ..... W, III, Supp, fig 38 (p 263), pp 264-265
- coal bed on ..... W, III, Supp, pp 119, 121
- Datil Range ..... W, III, fig 151 (p 532)
- Tres Hermanos Buttes to ..... W, III, pp 549-550
- Dillons Canyon ..... W, III, Supp, fig 44 (p 273),  
fig 45 (p 274), p 275, fig 46 (p 276), fig 47 (p 277)
- coal bed in ..... W, III, Supp, pp 116, 120
- Fort Union, vicinity of ..... W, 1877, p 1298
- Fort Wingate, vicinity of ..... H, Ann 9, p 85
- Galisteo coal field ..... W, III, Supp, pp 127-128
- Galisteo Creek ..... W, III, Supp, fig 1 (p 50), pp 330-332; 333-334
- coal beds on ..... W, III, Supp, pp 129, 130
- vicinity of ..... H, Ann 3, p 67; H, Ann 1-3, p 167
- Gallinas Creek ..... W, III, Supp, fig  
11 (p 59); H, Ann 3, pp 62-63; H, Ann 1-3, pp 162-163
- Gallinas Mountains, vicinity of ..... H, Mon III, fig 1 (p 4)
- Gallinas River, vicinity of ..... W, IV, pt II, fig 1 (p 11)
- Guadalupe River ..... W, 1875, fig 2 (p 104)
- Manco Burro Pass ..... W, III, Supp, p 196
- Manuelitos Creek ..... W, III, Supp, fig 10 (p 58), pp 307-309, 310
- Mora Creek ..... W, III, Supp, fig 7 (p 57), pp 298-299
- Mora and Manuelitos creeks ..... W, III, Supp, pp 77-78
- Moreno Valley ..... W, III, Supp, fig 3 (p 54)
- northwestern ..... W, 1875, p 87
- Nutria, vicinity of ..... W, III, pp 552-553
- Nutria fold ..... W, III, figs 163-166 (p 562)
- Pinos Creek ..... W, III, Supp, p 176
- Purgatory River ..... H, Mon VII, p 14
- Raton Hills ..... H, Atlas, sheet xviii
- Raton Mountains ..... H, Mon VII, p 13
- Raton Pass ..... W, III, Supp, p 206
- Rio Grande, Canadian Plains to ..... W, III, Supp, pl I (p 406)

|  |   |
|--|---|
| Section, geologic, in New Mexico, Rio Grande, Colorado River, Arizona, to .. | W, III, figs 119-122 (p 288)  |
| in New Mexico, Rio Puerco.....   | W, 1875, p 104  |
| Rio San José.....  | W, 1875, fig 3 (p 106)  |
| Rio Torreones.....   | W, 1875, p 104  |
| San José River, head of.....   | W, III, fig 153 (p 534)   |
| Santa Rita Range.....  | W, III, fig 149 (p 516), p 517  |
| Sixmile Creek, vicinity of.....  | W, III, Supp, p 243   |
| Stinking Spring.....   | W, III, fig 123 (p 290), pp 550-551   |
| Tecolote Valley.....   | W, III, Supp, fig 12 (p 59)   |
| Turkey Mountain.....   | W, III, Supp, p 92  |
| Vermejo Creek.....   | W, III, Supp, fig 29 (pp 248-249), fig 30 (p 250), fig 31 (p 251), fig 32 (p 252), figs 33 and 34 (p 253), pp 257, 258-259; W, 1877, p 1300 |
| coal bed on.....   | W, III, Supp, pp 106, 108, 109, 110, 121, 122   |
| vicinity of.....   | H, Ann 3, p 57; H, Ann 1-3, p 157   |
| Vermejo Park, coal bed in.....   | W, III, Supp, p 114   |
| Willow Creek.....  | W, III, Supp, fig 48 (p 279)  |
| Zuni Range.....  | W, III, fig 168 (p 563)   |
| in North Dakota, Fargo.....  | H, Ann 6, p 301   |
| in Northwest, Cretaceous rocks of.....                                       | H, Ann 4, p 87; H, Mon VI, p 14   |
| in Plateau Province.....   | H, Ann 9, p 85; UM, pp 40-42  |
| in South Dakota, Amphibious Creek....  | BH, fig 17 (p 122), fig 20 (p 141), p 158   |
| Bear Butte.....  | BH, p 196   |
| Bear Lodge, vicinity of.....   | BH, p 180   |
| Beaver Creek.....  | BH, p 33, fig 3 (p 34), p 182   |
| vicinity of.....   | BH, p 155   |
| Beaver Creek Gap.....  | BH, p 178   |
| Belle Fourche Creek.....   | BH, p 165   |
| vicinity of.....   | BH, p 180   |
| Belle Fourche Valley.....  | BH, fig 24 (p 147)  |
| Black Hills.....   | H, Ann 3, p 12; H, Ann 1-3, p 112; H, Uncl 16, p 17; BH, p 40, fig 25 (p 206)   |
| Carboniferous rocks.....   | BH, p 108   |
| Red Beds.....  | BH, p 131   |
| Box Elder Creek.....   | BH, fig 13 (p 91), p 126  |
| Castle Creek.....  | BH, p 120   |
| Cheyenne River.....  | BH, pp 31, 33   |
| vicinity of.....   | BH, pp 183, 184   |
| Custer Peak, Carboniferous plateau at.....                                   | BH, fig 15 (p 117)  |
| French Creek.....  | BH, fig 12 (p 90), pp 181, 234  |
| Minne Katta Creek.....   | BH, p 121   |
| Missouri River.....  | H, Mon IX, p xxiii  |
| Cretaceous rocks.....  | BH, p 171   |
| Old Woman Butte.....   | BH, p 30  |
| Rapid Creek.....   | BH, fig 10 (p 85), fig 14 (p 94), fig 18 (p 124), p 125, fig 21 (p 142)   |
| Red Canyon Creek.....  | BH, pp 140, 157, 182  |
| Red Valley.....  | BH, p 128, fig 19 (p 140), fig 20 (p 141), fig 21 (p 142), fig 22 (p 144), fig 23 (p 146)   |
| Carboniferous plateau near.....  | BH, fig 16 (p 119)  |
| Redwater Valley.....   | BH, pp 160, 163   |
| Slate Creek.....   | BH, p 99  |
| Spearfish Creek.....   | BH, p 161   |
| vicinity of.....   | BH, fig 22 (p 144)  |
| Spring Creek.....  | BH, fig 9 (p 82), fig 11 (p 87), p 241, fig 28 (p 244), p 257   |

- Section, geologic, in South Dakota, Spring Creek, vicinity of.....BH, p 185  
 in South Dakota, Sundance, vicinity of.....BH, p 154  
   Sundance Hills.....BH, fig 23 (p 146)  
 in Utah, Abajo Mountains.....H, Ann 9, p 85  
   Abajo Mountains to Antelope Park, Colorado.....H, Atlas, sheet xvii  
   Aquarius Plateau.....HP, Atlas  
   Aspen Plateau to the Desert.....K, Atlas  
   Awapa Plateau.....HP, Atlas  
   Bear River, vicinity of.....H, Ann 4, pp 150-151, 152  
   Bear River City.....H, Ann 4, figs 1, 2 (p 153)  
   Bear River Range.....H, Ann 11, pp 598, 599  
   Beaver Creek Range.....W, III, fig 7 (p 28)  
   Book Cliffs, vicinity of.....H, Ann 10, pl XII (p 184), p 185  
   Bowl Creek Arch.....HM, fig 46 (p 45)  
   Castle Valley.....W, III, figs 124-130 (pp 292-293), fig 132 (p 295)  
   Cataract Canyon.....UM, fig 10 (p 57), pp 58-59  
   Cliff Spring.....H, Ann 10, p 184  
   Coal Creek.....K, I, pp 211-212  
   Coalville.....H, Ann 6, pp 437-454  
     Echo Canyon to.....H, Ann 6, fig 52 (p 439), pp 439-440  
   Cottonwood Canyon.....K, I, pp 165-172  
   Desert Creek.....H, Ann 10, p 174  
   Dirty Devil River.....W, III, p 281; W, III, Supp, pp 136-137  
   East Fork Canyon.....HP, fig 4 (p 244)  
   Echo Canyon, Coalville to.....H, Ann 6, fig 52 (p 439), p 440  
   Evanston.....H, Ann 5, p 194  
   Flaming Gorge.....K, I, p 260  
   Grand River.....H, Ann 9, p 83; H, Ann 10, pp 171, 172  
   Grand River Valley.....H, Ann 10, pl XII (p 184)  
   Green River Valley to White River Plateau, Colorado..H, Atlas, sheet xvii  
   Gunnison, vicinity of.....HP, p 164  
   Henry Mountains, Cretaceous rocks.....HM, p 4  
     Juratrias rocks.....HM, p 6  
     Pulpit Arch.....HM, fig 31 (p 33), fig 73 (p 148)  
   high plateaus.....HP, Atlas  
   House Range.....W, III, figs 3-5 (p 27), fig 73 (p 167)  
   Jacobs Pool.....W, III, fig 64 (p 160)  
   Joes Valley.....W, III, fig 107 (p 268)  
   Kaiparowits Plateau.....HP, Atlas  
   Kanab region.....HP, p 151  
   Lewis Creek Canyon.....HM, fig 40 (p 40)  
   Lewis Creek Plain.....HM, fig. 61, (p 128)  
   Manti, vicinity of.....W, III, fig 106 (pp 267-268)  
   Markagunt Plateau.....HP, Atlas  
   Mineral Range.....W, III, fig 8 (p 29)  
   Monroe Amphitheater.....HP, pp 240-242  
   Mount Hillers.....HM, fig 25 (p 30)  
   Mount Pennell.....HM, fig 35 (p 36)  
   Mount Thurber.....HP, p 239  
   Ogden Canyon.....H, Ann 6, fig 45 (p 195); K, I, pp 174-177  
   Ogden Peak.....H, Ann 6, fig 44 (p 193)  
   Ophir City.....W, III, fig 72 (p 166)  
   Oquirrh Range.....W, III, figs 1 and 2 (p 26)  
   Pahvan Butte.....W, III, fig 52 (p 137)  
   Pahvan Range.....W, III, fig 33 (p 59)

|  |  |
|--|--|
| Section, geologic, in Utah, Paria.....               | W, III, p 279  |
| in Utah, Paria, vicinity of.....                     | H, Ann 9, p 85; W, III, fig 109 (pp 270-272)                                   |
| Paria Creek.....                                     | W, III, fig 63 (p 159); W, III, Supp, p 136                                    |
| Paunsagunt Plateau.....                              | HP, Atlas  |
| Pine Valley Mountains to Le Verken Creek.....        | W, III, fig 110 (p 273)  |
| Price River.....                                     | W, III, fig 108 (p 269)  |
| Provo Valley, vicinity of.....                       | W, III, fig 32 (p 58)  |
| Red Canyon.....                                      | UM, fig 12 (p 143)   |
| Sage Plain to Alpine Plateau, Colorado.....          | H, Atlas, sheet xvii   |
| Salina, vicinity of.....                             | HP, p 164; W, III, fig 132 (p 295), fig 133 (p 296)                            |
| Salt Creek.....                                      | H, Ann 9, pp 71, 82  |
| San Juan Valley to San Juan Mountains, Colorado..... | H, Atlas, sheet xvii   |
| San Pete Valley to San Rafael Swell.....             | HP, p 160  |
| Sam Pitch Plateau.....                               | W, III, fig 60 (p 157)   |
| Sevier fault.....                                    | W, III, fig 25 (p 50)  |
| Sevier Plateau.....                                  | HP, p 242, Atlas   |
| Sevier River, vicinity of.....                       | W, III, fig 61 (p 158)   |
| Sierra La Sal.....                                   | H, Ann 9, pl vi (p 62), pl viii (p 96)   |
| Stansbury Range.....                                 | W, III, fig 97 (p 239)   |
| Toquerville, vicinity of.....                        | W, III, figs 111-114 (p 284)   |
| Tushar Plateau.....                                  | HP, Atlas  |
| Uinta Mountains.....                                 | HP, pp 57-151, Atlas; ECR, fig 51 (p 155)                                      |
| desert to.....                                       | K, Atlas   |
| Juratrias rocks.....                                 | UM, pp 152-153   |
| Vermilion Cliff.....                                 | HP, fig 3 (p 150)  |
| Virgin River.....                                    | W, III, fig 60 (p 158)   |
| Wasatch Plateau.....                                 | HP, p 166  |
| Wasatch Range.....                                   | K, I, pp 155-156;<br>K, II, p 343; W, III, fig 95 (p 234), fig 96 (p 235)      |
| Washington, vicinity of.....                         | W, III, fig 134 (p 296)  |
| Waterpocket flexure.....                             | HM, fig 2 (p 12)   |
| Weber River.....                                     | H, Ann 6, p 444; K, I, pp 157-165  |
| Whirlpool Canyon.....                                | UM, fig 13 (p 145)   |
| in Wyoming, Almy.....                                | H, Ann 6, p 539  |
| Amethyst Mountain.....                               | H, Ann 11, pl xxvii (p 46)   |
| Antelope Creek.....                                  | K, I, p 257  |
| Bear River, vicinity of.....                         | H, Ann 11, pl LXVII (p 574)  |
| Big Sandy River.....                                 | H, Ann 11, p 526   |
| Bitter Creek.....                                    | H, Bull, vol III, No 1, pl xxvi (p 186)  |
| Bitterroot Creek, vicinity of.....                   | H, Ann 11, pl XLIX (p 526), pl LIII (p 540)                                    |
| Black Butte.....                                     | H, Ann 6, p 334, fig 54 (p 526), pp 527-528; H, Ann 7, p 373                   |
| Black Buttes station.....                            | H, Ann 11, p 222   |
| Box Elder Creek.....                                 | K, II, p 34  |
| Bridger station, vicinity of.....                    | H, Ann 6, p 537  |
| Buffalo Fork.....                                    | H, Ann 11, p 462   |
| vicinity of.....                                     | H, Ann 12, I, pl xx (p 227)  |
| Buffalo Fork Mountains.....                          | H, Ann 11, pl XLIV (p 470)   |
| Bull Lake.....                                       | H, Ann 12, I, p 262  |
| Bull Lake Fork.....                                  | H, Ann 12, I, pl xxx<br>(p 238), pl xxxviii (p 245), pp 246-248, pl XL (p 248) |
| Campbells Fork, vicinity of.....                     | H, Ann 12, I, pl xxxiii, (p 241), pp 242, 244                                  |
| Carbon.....  | H, Ann 6, pp 331-521; H, Mon VII, p 18; K, II, pp 145-146                      |
| Chugwater Creek.....                                 | K, II, p 34  |
| Colorado group.....                                  | K, II, pp 42   |

- Section, geologic, in Wyoming, Como Ridge.....K, II, p 91  
 in Wyoming, Crow Creek .....H, Ann 11, pl LX (p 554)  
 Dry Creek Canyon.....H, Ann 12, I, pl XXXVII (p 244)  
 East Gallatin Range .....H, Ann 12, II, pl XIV (p 26)  
 Electric Peak, Sepulchre Mountain, and Mount Evarts.....H, Ann 12,  
 II, pl X (p 20)  
 Evanston .....H, Ann 6, p 338; H, Mon VII, p 19  
 Evarts, Mount .....H, Ann 12, II, pl VI (p 10), pl VII (p 12), p 13  
 Fillmore, east of .....H, Ann 11, p 125  
 Fontenelle Creek, vicinity of.....H, Ann 11, pl LIII (p 540)  
 Fontenelle Valley .....H, Ann 11, pp 537-538  
 Fort Steele, vicinity of .....H, Ann 4, p 136; K, II, p 154  
 Granite Canyon .....K, I, p 130; K, II, p 30  
 Great Plains to Rawlings Peak .....K, Atlas  
 Green River .....H, Ann 4, p 61; H, Ann 11, p 532, UM, pp 156-158  
 Rawlings Springs to, along Union Pacific Railroad .....H, Bull,  
 vol III, No 1, pl XXVI (p 186)  
 Green River Basin to Wyoming Range.....H, Ann 11,  
 pl XLIX (p 526), pl LIII (p 540)  
 Green River Canyon .....H, Ann 12, I, pl XXVI (p 233)  
 Green River station .....H, Ann 6, pp 336, 536  
 Gros Ventre Basin.....H, Ann 11, p 454; H, Ann 12, I, pl XX (p 227)  
 Gros Ventre Canyon .....H, Ann 6, p 266  
 Gros Ventre Mountains .....H, Ann 11,  
 pl XL (p 450), pl XLI (p 456); H, Ann 12, I, pl XIII (p 208)  
 Gros Ventre River.....H, Ann 6, p 21; H, Ann 12, I, p 221  
 Hams Fork .....H, Ann 11, p 532  
 vicinity of.....H, Ann 11, pl LIII (p 540)  
 Hoback Canyon Ridge to John Day Ridge.....H, Ann 12, I, pl IV (p 189)  
 Horse Creek, vicinity of.....H, Ann 11, pl XLIX (p 526),  
 pl LIII (p 540); H, Ann 12, I, pl XXXI (p 239); K, I, p 129  
 John Day Ridge to Hoback Canyon Ridge.....H, Ann 12, I, pl IV (p 189)  
 John Day River .....H, Ann 11, pl LV (p 544), p 545  
 vicinity of.....H, Ann 11, pl LIV (p 542)  
 Junction Valley.....H, Ann 12, II, pl XXVI (p 46)  
 La Barge Creek, vicinity of.....H, Ann 11, pl LIII (p 540)  
 Lake Creek, vicinity of.....H, Ann 11, pl XLIX (p 526)  
 Laramie Hills .....H, Uncl 16, p 17  
 Laramie Plains .....K, II, p 80  
 Little Sandy River .....H, Ann 11, p 525  
 Marsh Creek.....H, Ann 11, p 529  
 vicinity of.....H, Ann 11, pl XLIX (p 526), pl LIII (p 540)  
 Mount Leidy, vicinity of .....H, Ann 11, p 458, pl XLII (p 462)  
 Mount Washburn.....H, Ann 12, II, pl XVII (p 32)  
 Muddy Creek.....K, I, p 334  
 Niobrara River, headwaters of.....BH, fig 2 (p 28)  
 North Fork Little Wind River.....H, Ann 12,  
 pl XLIV (p 252), pl XLV (p 253), pp 253-254  
 North Platte River.....K, II, p 155  
 Oyster Ridge.....H, Ann 11, pl LII (p 532), p 533  
 Red Desert to .....K, Atlas  
 Piney Creek, vicinity of.....H, Ann 11, pl XLIX (p 526), pl LIII (p 540)  
 Point of Rocks.....H, Bull, vol III, No 1, pl XXVI (p 186)  
 vicinity of.....H, Ann 6, pp 529-530, 532-533

- Section, geologic, in Wyoming, Pumpkin Butte ..... H, Mon VII, p 11  
 in Wyoming, Rawhide Butte ..... BH, fig 1 (p 27)  
 Rawlings Peak ..... H, Ann 11, pl v (p 124)  
     Great Plains to ..... K, Atlas  
 Rawlings Springs to Green River, along Union Pacific Railroad .... H, Bull,  
     vol III, No 1, pl XXVI (p 186)  
 Red Canyon.. H, Ann 12, I, pl xxx (p 238), pl XXXIV (p 243), pl XLII (p 250)  
 Red Desert..... H, Bull, vol III, No 1, pl XXVI (p 186), K, Atlas  
 Rock Cut ..... H, Ann 6, p 538  
 Rock Springs ..... H, Ann 6, p 335; H, Bull, vol III, No 1, pl XXVI (p 186)  
 Sage Creek, vicinity of ..... H, Ann 12, I, pl XLII (p 250)  
 Salt River Range ..... H, Ann 11, pl LVI (p 546),  
     p 574, pl LVII (p 548), pl LVIII (p 550), pl LIX (p 552)  
 Salt Wells, vicinity of ..... H, Ann 6, p 532; H, Ann 11, pl VI (p 128)  
 Separation ..... H, Bull, vol III, No 1, pl XXVI (p 186)  
 Sheep Mountain ..... H, Ann 11, pl I (p 80)  
 Signal Peak ..... K, I, p 130  
 Simpsons Ridge ..... K, I, p 323  
 Slate Creek, vicinity of ..... H, Ann 11, pl LIII (p 540)  
 Smiths Fork, geology of ..... H, Ann 11, p 577, pl LXVIII (p 578), p 579  
 Snake River ..... H, Ann 12, I, pp 197, 199  
 Sulphur Creek ..... H, Ann 6, fig 53 (p 451), p 452; UM, pp 158-160  
 Sweetwater Valley .... H, Ann 11, pl II (p 100), pl III (p 104) pl IV (p 108)  
 Table Mountain ..... K, II, p 30  
 Table Rock ..... H, Ann 6, p 525  
 Teton district, Paleozoic formations in ..... H, Ann 11, p 480  
 Teton Range ..... H, Ann 6, fig 46 (p 218);  
     H, Ann 11, pl XXXIV (p 416), pl XXXVII (p 422), p 423  
 Thomas Fork to Smith Fork ..... H, Ann 11, pl LXIX (p 582)  
 Torreys Creek, vicinity of ..... H, Ann 12, I, pl XXXI (p 239)  
 Twin Creek ..... H, Ann 11, pl LXVII (p 574)  
 Warm Spring Creek, vicinity of ..... H, Ann 12, I, pl XXIX (p 236)  
 Washakie ..... H, Bull, vol III, No 1, pl XXVI (p 186)  
 western ..... H, Ann 11, p 623  
     Idaho, southeastern, and ..... H, Bull, vol V, No 1, p 120  
 Wind River, vicinity of ..... H, Ann 12, I, pp 238-239  
 Wind River Range ..... H, Ann 6, p 20; H, Ann 11, pl I (p 80);  
     H, Ann 12, I, pl XXVI (p 233), pl XXVIII (p 235)  
 Wyoming Range ..... H, Ann 11,  
     p 541, pl LIV (p 542); H, Ann 12, I, pl IX (p 201)  
     Green River Basin to ..... H, Ann 11, pl XLIX (p 526), pl LIII (p 540)  
 Yellowstone Park, Amethyst Mountain.. H, Bull, vol V, No 1, fig 1 (p 126)  
     Tower Falls ..... H, Ann 6, p 127  
     White Mountain Hot Springs ..... H, Ann 5, fig 21 (p 73)  
 Yellowstone Valley ..... H, Ann 12, II, pl II (p 4), pl IV (p 8)
- Section, thin. (See name of rock.)
- Sections, profile, and other illustrations in Rocky Mountain region ..... H, Uncl 3
- Sedimentary rocks of Colorado, central ..... W, III, pp 356-403  
 of Colorado; Eagle, Grand, and Gunnison rivers ..... H, Ann 8, pp 110-162  
     Front Range, east of ..... H, Ann 7, pp 93-137  
     Grand River district ..... H, Ann 9, pp 70-92  
     San Juan drainage basin ..... H, Ann 9, pp 180-190  
     San Juan region ..... H, Ann 8, pp 210-228  
     Sangre de Cristo Range ..... H, Ann 9, pp 113-127  
     White River district ..... H, Ann 10, pp 71-86, 93-97, 105-111

- Sedimentary rocks of Colorado, Plateau Province.....UM, pp 37-73  
of Utah, Grand River district .....H, Ann 9, pp 70-92  
White River district.....H, Ann 10, pp 71-86, 93-97, 105-111  
(See, also, Silurian; Devonian, etc.)
- Seetoya Mountains, Nevada, granite of.....K, I, pp 74-75
- Selish language, vocabulary of.....Eth, I, pp 267-283  
(See, also, Ethnology and archæology.)
- Sennett (G. B.), further notes on the ornithology of the lower Rio Grande of  
Texas, from observations made during the spring of 1878....H, Bull,  
vol v, No 3, pp 371-440  
notes on the ornithology of the lower Rio Grande of Texas, from observa-  
tions made during the season of 1877....H, Bull, vol iv, No 1, pp 1-66
- Sepulchre Mountain, Wyoming, geology of.....H, Ann 12, II, pp 15-19
- Severance (M. S.), report of.....W, 1872, pp 55-56
- Severance (M. S.) and Yarrow (H. C.), notes upon human crania and skele-  
tons collected by the expeditions of 1872-1874....W, VII, pp 391-397
- Sevier Plateau, Utah, geology of.....HP, pp 225-251
- Sevier River Basin, Utah, agriculture in.....H, Ann 4, pp 244-247
- Sevier Valley, Utah, geology of.....HP, pp 211-224  
irrigable lands of.....AL, pp 128-149
- Shale, analysis of, from Wyoming, Green River.....K, II, p 243
- Shell heaps of Aleutian Islands, on succession in.....Eth, I, pp 41-91  
(See, also, Ethnology and archæology.)
- Shells of Nebraska, catalogue of land and fresh-water.....H, Bull,  
vol III, No 3, pp 697-704
- Shihwapiukh language, vocabulary of.....Eth, I, pp 247-265  
(See, also, Ethnology and archæology.)
- Shinarump group, exposures of.....UM, p 54  
of Uinta Mountains.....UM, pp 150-151  
of Utah, high plateaus.....HP, pp 144-148
- Shooswaap language, vocabulary of.....Eth, I, pp 247-265  
(See, also, Ethnology and archæology.)
- Shoshone Lake (Tertiary), extent of.....K, I, pp 456-457
- Shoshone Range, Nevada, geology of.....K, II, pp 618-624, 631-643  
granite of.....K, I, pp 77-79
- Shufeldt (R. W.), osteology of Cathartidæ.....H, Ann 12, I, pp 727-806  
osteology of *Eremophila alpestris*.....H, Ann 12,  
I, pp 627-652; H, Bull, vol VI, No 1, pp 119-147  
osteology of *Lanius ludovicianus excubitorides*.....H, Bull,  
vol VI, No 2, pp 351-359  
osteology of North American Tetraonidæ.....H, Ann 12,  
I, pp 653-726; H, Bull, vol VI, No 2, pp 309-350  
osteology of *Speotyto cunicularia hypogæa*.....H, Ann 12,  
I, pp 593-626; H, Bull, vol VI, No 1, pp 87-117
- Shwoyelpi language, vocabulary of.....Eth, I, pp 248-265  
(See, also, Ethnology and archæology.)
- Sickle Creek, Wyoming, geology near.....H, Ann 11, p 546
- Sidney Barracks, Nebraska, astronomical determinations at.....W, II, pp 417-432
- Siebold (C. T. von), on *Artemia fertilis* Verrill from Great Salt Lake, Utah  
Territory.....H, Ann 12, I, pp 459-463  
on parthenogenesis in *Artemia salina*.....H, Ann 12, I, pp 463-466
- Sierra El Late, Colorado, geology of.....H, Ann 9, pp 272-274
- Sierra Madre, New Mexico, geology of.....W, 1875, pp 78-88  
beds of western slope of.....W, IV, pt II, pp 1-13



- Silica, infusorial, analysis of, from Nevada, Kawsoh Mountains ..... K, II, p 768
- Silliman (B.), the telluride ores of the Red Cloud and Cold Spring mines, Gold  
Hill..... H, Ann 7, pp 688-691
- Silurian fossils; invertebrates of Fortieth Parallel region..... K, IV, pp 17-25, 205-246
- invertebrates of Nevada and New Mexico ..... W, Uncl 6, pp 6-14
- of Nevada, Utah, New Mexico, and Arizona ..... W, IV, pp 32-78
- of Southwest ..... W, IV, pp 32-78
- (See, also, Invertebrates, fossil.)
- of Montana, Utah, and Wyoming..... H, Ann 6, pp 431-432, 463-465, 479-487
- (See, also, Vertebrates, fossil; Invertebrates, fossil.)
- Silurian rocks of Basin Range ..... W, III, pp 180-186
- of Black Hills ..... BH, pp 80-107
- of Colorado, central ..... W, III, pp 355-361
- Eagle and Grand rivers..... H, Ann 8, pp 110-114
- northwestern ..... H, Ann 10, p 23
- Sangre de Cristo Range..... H, Ann 9, p 113
- of Idaho, Bear River Range ..... H, Ann 11, p 613
- of Wyoming, Sweetwater Valley ..... H, Ann 11, pp 101-103
- Wind River Range..... H, Ann 11, pp 70-73
- Silurian and Cambrian rocks of Great Basin..... K, I, pp 184-221
- Silver in New Mexico, Santa Fe, vicinity of ..... W, III, Supp, pp 403-404
- Silver Bend district, Nevada, notes on ..... W, 1871, pp 41-42
- Silver Era Peak, California, geology of ..... W, 1878, pp 181-183
- Silver Mountain district, California, notes on ..... W, 1878, pp 88-89
- Silver ore, treatment of, in Colorado ..... K, III, pp 606-616
- Silver Peak and Red Mountain districts, Nevada, notes on ..... W, 1871, pp 48-49
- Silver and gold mines of Colorado..... H, Ann 3, pp 87-89; H, Ann 1-3, pp 187-189
- Silver mining in Colorado, Georgetown district ..... K, III, pp 589-605
- in Colorado, Snake River region ..... K, III, pp 617-624
- Sinter, siliceous, analysis of, from Nevada, Virginia Range ..... K, II, p 826
- Sit-ka-kwan language, vocabulary of..... Eth, I, pp 121-133
- (See, also, Ethnology and archæology.)
- Sioux Lake (Tertiary), extent of ..... K, I, pp 451-454
- Sirenia, bibliography of Cete and..... H, Bull, vol VI, No 3, pp 399-562
- (See, also, Vertebrates.)
- Skat-kwan language, vocabulary of ..... Eth, I, pp 121-133
- (See, also, Ethnology and archæology.)
- Skeletons and crania collected in 1872-1874, notes on..... W, VII, pp 391-397
- (See, also, Ethnology and archæology.)
- Skit-a-get language, vocabulary of ..... Eth, I, pp 136-142
- (See, also, Ethnology and archæology.)
- Skokomish Reservation, Washington, Twana Indians of, customs, language,  
    etc., of ..... H, Bull, vol III, No 1, pp 57-114
- (See, also, Ethnology and archæology.)
- Skoylpeli language, vocabulary of ..... Eth, I, pp 248-265
- (See, also, Ethnology and archæology.)
- Skull from Chaco Canyon, New Mexico, report on ..... H, Ann 10, pp 453-457
- (See, also, Human remains; Cranium; Ethnology and archæology.)
- Skulls from Santa Barbara Islands, California, observations on... W, VII, pp 277-292
- (See, also, Human remains; Cranium; Ethnology and archæology.)
- Skulls and skeletons collected in 1872-1874, notes on ..... W, VII, pp 391-397
- (See, also, Human remains; Cranium; Ethnology and archæology.)
- Slate of Black Hills, petrography of..... BH, pp 476-483
- Slate Creek, Wyoming, geology near ..... H, Ann 11, pp 531-532

- Smith (S. I.), report on the amphibod crustaceans ..... H, Ann 7, pp 608-611
- Smiths Fork, Wyoming, geology near ..... H, Ann 11, pp 577-580
- Smoking Creek, Wyoming, geology near ..... H, Ann 11, p 554
- Smoky Valley Range, Nevada, geology and mines of ..... K, III, pp 393-404
- Snake River, Idaho-Wyoming, course and character of ..... H, Ann 6, pp 267-270
- Grand Canyon of, geology of ..... H, Ann 11, pp 437-438
- geology along ..... H, Ann 12, I, pp 196-201
- Snake River Range, Idaho-Wyoming, geology of ..... H, Ann 11, pp 424-425
- Snake River region, Colorado, silver mining in ..... K, III, pp 617-624
- Snake River Valley, Wyoming-Idaho, geology of lower ..... H, Ann 11, pp 405-410
- resources of ..... H, Ann 6, pp 86-91
- Sneffels, Mount, Colorado, ascent of ..... H, Bull, vol I, ser 2, No 3, pp 193-199
- Soapstone pots, method of manufacture of ..... W, VII, pp 117-121
- (See, also, Ethnology and archaeology.)
- Soda, analysis of, from Colorado, Soda Lake ..... H, Ann 4, p 187
- Soda Lakes, Nevada, description of ..... K, I, pp 510-514
- Soda Springs, Idaho, geology near ..... H, Ann 11, pp 590-596
- Soil, analysis of, from Arizona, Big Dry Fork ..... W, III, pp 587, 597
- analysis of, from Arizona, Camp Grant ..... W, III, pp 592, 597
- from Arizona, Chevelons Fork ..... W, III, pp 586, 597
- Ehrenberg, vicinity of ..... W, 1876, p 220
- Gila River ..... W, III, pp 594, 597
- Mogollon or Black Mesa ..... W, VI, p 23
- San Francisco Mountain region ..... W, III, pp 589, 597
- San Pedro River, vicinity of ..... W, III, pp 590, 597
- from California, Point of Rocks ..... W, 1876, p 221
- from Colorado, Carlisle ..... W, 1875, pp 130, 131
- Culebra Valley ..... W, 1875, p 132
- from Kansas, Smoky Hill Valley ..... H, Ann 9, p 289; H, Bull, vol II, No 3, p 218
- Nebraska, Blue River (alluvium) ..... H, Ann 8, p 258
- Dakota City (alluvium) ..... H, Ann 8, p 258
- Elkhorn River (alluvium) ..... H, Ann 8, p 258
- Fort Kearney, vicinity of ..... H, Ann 8, p 261
- Kearney (loess) ..... H, Ann 8, p 246
- Lincoln, vicinity of ..... H, Ann 8, p 261
- Loup River (loess) ..... H, Ann 8, p 246
- North Platte, vicinity of ..... H, Ann 8, p 261
- Omaha, vicinity of (loess) ..... H, Ann 8, p 246
- Platte River (alluvium) ..... H, Ann 8, p 258
- Republican River (alluvium) ..... H, Ann 8, p 258
- Republican Valley (loess) ..... H, Ann 8, p 246
- Sutton (loess) ..... H, Ann 8, p 246
- from Missouri, Hannibal (loess) ..... H, Ann 8, p 246
- from Nevada, Browns station ..... K, II, p 744
- from New Mexico, Abiquiu, vicinity of ..... W, 1875, p 132
- Las Vegas ..... W, 1875, p 136
- Mimbres ..... W, III, pp 581, 597
- northwestern ..... W, III, pp 582, 597
- Trinidad ..... W, 1875, p 137
- from Utah, Dugway station ..... K, II, p 467
- Ibenpah Mountains ..... K, II, p 474
- Salt Lake City, vicinity of ..... K, II, p 434
- White Rock Pass ..... K, II, p 467
- of Black Hills ..... BH, pp 313-315
- (See, also, Loess; Alluvium.)

- Sopris Peak, Colorado, geology of ..... H, Ann 8, pp 61-63
- South America, springs, thermal of ..... H, Ann 12, II, pp 329-332
- South Dakota, Bear Lodge region, geology of ..... BH, pp 283-289
- Castle Creek district, mineral resources of ..... BH, pp 261-266
- French Creek district, mineral resources of ..... BH, pp 226-238
- Rapid Creek, mineral resources of ..... BH, pp 267-272
- Spring Creek district, mineral resources of ..... BH, pp 238-260
- South Park, Colorado, geology of ..... H, Ann 3,  
    pp 79-81; H, Ann 1-3, pp 179-181; H, Ann 7, pp 36-39, 212-225
- topographic features of ..... H, Ann 9, pp 419-431
- South Pass, Wyoming, geology between Fort Bridger and ..... H, Ann 4, pp 35-41
- geology between Fort Fetterman and ..... H, Ann 4, pp 24-35
- South Platte drainage basin, Colorado, cultivable areas on ..... H, Ann 10, pp 323-326
- Southwest, ferns of ..... W, VI, pp 299-340
- Span worm, cranberry, description of ..... H, Ann 10, p 521
- Spanish Peaks, Colorado, description of ..... H, Bull, vol III, No 3, pp 551-552
- volcanic rocks of ..... H, Ann 9, pp 131-136
- Spanish Peaks region, Colorado, geology of ..... W, 1879, pp 271-281
- Sparrow, English, status of, in America, with special reference to Western  
    States and Territories ..... H, Bull, vol V, No 2, pp 175-193
- (See, also, Vertebrates.)
- Speotyto cunicularia hypogaea, osteology of ..... H, Ann 12,  
    I, pp 593-626; H, Bull, vol VI, No 1, pp 87-117
- (See, also, Vertebrates.)
- Spiders, descriptions of two new, from Colorado .. H, Bull, vol III, No 2, pp 528-529
- (See, also, Invertebrates.)
- Spokane language, vocabulary of ..... Eth, I, pp 249-265
- (See, also, Ethnology and archaeology.)
- Spring Canyon, Montana, geology of ..... H, Ann 6, pp 109-115
- Spring Creek district, South Dakota, mineral resources of ..... BH, pp 238-260
- Spring Valley district, Nevada, notes on ..... W, 1871, p 39
- Springs, altitudes of lakes and ..... W, Uncl 16, pp 172-180
- deposit from, analysis of, from Yellowstone Park, Alum Creek .. H, Ann 6, p 137
- analysis of, from Yellowstone Park, Gardiners River ..... H, Ann 6, p 125
- in Colorado, Colorado City ..... H, Ann 3, pp 118-120; H, Ann 1-3, pp 116-118
- in Idaho, Bear River, vicinity of .. H, Ann 5, pp 152-154; H, Ann 11, pp 590-596
- in Wyoming, Gardiners River ..... H, Ann 5, pp 64-75
- Sweetwater district ..... H, Ann 11, pp 54-55
- Springs, thermal, definition, geological features, therapeutics, physical condi-  
    tion, etc., of ..... H, Ann 12, II, pp 355-426
- deposits of, physical and chemical features of ..... H, Ann 12, II, pp 398-416
- in Colorado, Colorado Springs, vicinity of ..... H, Ann 6, pp 102-103, 175
- in United States ..... W, III, pp 145-155
- in Utah ..... W, III, pp 256-257
- Ogden and Brigham, vicinity of ..... H, Ann 6, p 175
- in Yellowstone Park ..... H, Ann 5, pp 91-97, 197-198; H, Ann 6,  
        pp 122-125, 128-130, 135-143, 176-178; H, Ann 12, II pp 63-453
- Springs, thermal, and geysers of various portions of the world ..... H, Ann 12,  
    II, pp 304-353
- Springs, mineral, of Colorado, central ..... W, III, pp 478-487
- of New Mexico, Las Vegas ..... W, III, Supp, pp 405-406
- Ojos Calientes ..... W, III, pp 613-616
- (See, also, Water, mineral.)

- Squirrels, arboreal, synonymatic list of America . . . H, Bull, vol iv, No 4, pp 877-887  
(See, also, Vertebrates.)
- Stakhin-kwan language, vocabulary of . . . . . Eth, i, pp 121-133  
(See, also, Ethnology and archæology.)
- Star district, Nevada, mining in . . . . . K, iii, pp 314-316
- Stars, declination of 2018, catalogue of . . . . . W, Uncl 15
- Staurolite, thin section of, from Colorado, Red Creek . . . . . K, vi, pl 2
- Steatite cooking pots, plates, and food vessels, from graves of southern California . . . . . W, vii, pp 93-116  
(See, also, Ethnology and archæology.)
- Stevenson (J.), list of mammals and birds collected in Wyoming, 1879 . . . H, Ann 4, pp 461-466  
preliminary report on Spanish Peaks region . . . . . W, 1879, pp 271-281  
report on the geology of a portion of Colorado examined in 1873 . . . . . W, iii, pp 303-501  
report upon geological examinations in southern Colorado and northern New Mexico . . . . . W, iii, Supp, pp 3-420
- Stone, miscellaneous objects made of, from graves of southern California . . . W, vii, pp 190-217  
(See, also, Ethnology and archæology.)
- Stone implements of southern California . . . . . W, vii, pp 49-69  
(See, also, Ethnology and archæology.)
- Stone pipes from graves of southern California . . . . . W, vii, pp 125-134  
(See, also, Ethnology and archæology.)
- Stone weapons, methods of making . . . . . H, Bull, vol iii, No 3, pp 547-549  
(See, also, Ethnology and archæology.)
- Stones, perforated, from graves of southern California . . . . . W, vii, pp 135-189  
(See, also, Ethnology and archæology.)
- Stratigraphy of Colorado, Eagle, Grand, and Gunnison rivers . . H, Ann 8, pp 106-162  
of Colorado, Front Range, east slope of . . . . . H, Ann 7, pp 144-153  
Grand River district . . . . . H, Ann 9, pp 64-92; H, Ann 10, pp 178-185  
White River district . . . . . H, Ann 10, pp 71-86  
of Colorado Plateau . . . . . W, iii, pp 156-187, 265-289  
of Utah, Grand River district . . . . . H, Ann 9, pp 64-92; H, Ann 10, pp 178-185  
White River district . . . . . H, Ann 10, pp 71-86  
(See, also, Sedimentary rocks.)
- Streets (T. H.), description of *Cambarus couesi*, a new species of crawfish from Dakota . . . . . H, Bull, vol iii, No 4, pp 803-804
- Stretch (R. H.), report upon new species of *Zygænidæ* and *Bombycidæ* collected in portions of California and Arizona, 1871-1873 . . . . . W, v, pp 795-802
- Stuart (G.), notes on the climate of Montana . . . . . H, Ann 6, pp 809-812
- Sublette Creek, Wyoming, geology near . . . . . H, Ann 11, p 576
- Sublette Range, Wyoming, geology of . . . . . H, Ann 11, pp 580-581
- Sucia Islands, fossils from . . . . . H, Bull, vol ii, No 4, pp 351-374
- Sulphur Creek groups, exposures of . . . . . UM, p 50
- Sumner district, California, notes on . . . . . W, 1876, p 65
- Survey, methods of . . . . . W, i, pp 331-404  
under Lieutenant Wheeler, sketch of . . . . . W, i, pp 21-146
- Surveys, national, origins, functions, progress, cost, etc., of . . . . . W, i, pp 415-479
- Surveys and explorations in western North America, 1500-1800, account of . . . W, i, pp 481-764
- Sweden, primitive lapidarian sculptures in . . . . . Eth, v, pp 28-31
- Sweetwater group of Wyoming, Sweetwater Valley . . . . . H, Ann 11, pp 110-112

- Sweetwater Mountains, Nevada, geology of.....W, 1878, pp 173-175
- Sweetwater region, Wyoming, agriculture in.....H, Ann 4, pp 223-226  
geology of.....H, Ann 11, pp 3-158
- Sweetwater River, Wyoming, geology near.....H, Ann 4, pp 29-34
- Switzerland, primitive lapidarian sculptures in.....Eth, v, pp 21-22  
(See, also, Ethnology and archæology.)
- Syenite of Nevada, Cortez Range, microscopic petrography of.....K, vi, pp 81-82  
of Nevada, Washoe district.....K, iii, pp 21-25
- Sylvanite, analysis of, from Colorado, Gold Hill, Red Cloud mine..H, Ann 10, p 152
- Symons (T. W.), report of.....W, 1877, pp 1257-1262;  
W, 1878, pp 113-120; W, 1879, pp 214-223
- Tahoe, Lake, California, general features of.....W, 1877, pp 1287-1288
- Tait language, vocabulary of.....Eth, i, pp 268-283  
(See, also, Ethnology and archæology.)
- Taku-kwau language, vocabulary of.....Eth, i, pp 121-133  
(See, also, Ethnology and archæology.)
- Talcosc rock, analysis of, from Nevada, Star Canyon.....K, ii, p 726
- Tanta-kwau language, vocabulary of.....Eth, i, pp 135-142  
(See, also, Ethnology and archæology.)
- Taos, New Mexico, geology near.....H, Ann 3, pp 70-72; H, Ann 1-3, pp 170-172  
mines near.....H, Ann 3, p 123; H, Ann 1-3, p 119  
pueblo of.....W, ii, pp 327-330
- Taos Valley, New Mexico, agriculture in.....H, Ann 4, pp 202-204
- Tarryall Range, Colorado, topographic features of.....H, Ann 9, pp 411-412
- Telluride ores of Red Cloud and Cold Spring mines, Gold Hill, Colorado..H, Ann 7,  
pp 688-691
- Tellurium, analysis of, from Colorado, Magnolia district.....H, Ann 10, p 152
- Temescal tin mines, California, notes on.....W, 1876, pp 68-70
- Temperature of Colorado, compared with eastern cities.....H, Ann 9, p 355  
of Comstock lode.....K, iii, pp 84-86  
of Great Basin, notes on.....K, v, pp xvii-xxii  
of western States.....H, Uncl 14, pp 185-201  
oscillations, diurnal, diagram showing.....W, ii, pls xi-xiii
- Temperature and wind movement in western States east of Rocky Mountains...H,  
Ann 9, pp 677-683
- Terrill, Mount, Utah, geology of.....HP, pp 267-268
- Tertiary coals of the West.....H, Ann 4, pp 318-329
- Tertiary fossils collected in Wyoming and Utah in 1871, list of.....H, Ann 5,  
pp 375-376
- invertebrates; Coleoptera of Rocky Mountains...H, Bull, vol ii, No 1, pp 77-87  
crayfish from Wyoming.....H, Bull, vol vi, No 2, pp 391-397  
insects, first-discovered traces of.....H, Bull, vol iii, No 4, pp 741-762  
from Colorado and Wyoming, account of some.....H, Bull,  
vol iv, No 2, pp 519-542
- Mollusca from Colorado, Utah, and Wyoming.....H, Ann 12, i, pp 41-48
- of Fortieth Parallel region.....K, iv, pp 182-197
- of North America.....H, Mon xiii
- of Plateau province.....UM, pp 102-106, 125-135
- of Southwest.....W, iv, pp 206-216
- of Utah.....W, iv, pp 206-216
- of Utah and Wyoming, list of, collected in 1871.....H, Ann 5, pp 376-377
- of West, list of.....H, Bull, vol iii, No 3, pp 611-614
- Orthoptera of Rocky Mountains.....H, Bull, vol i, ser 2, No 6, pp 447-449
- Physopoda of Colorado.....H, Bull, vol i, ser 2, No 4, pp 221-223

- Tertiary fossils; invertebrates; Uniones of Wyoming and Utah, new species of. . . H,  
Bull, vol III, No 3, pp 603-606
- invertebrates. (See, also, Invertebrates, fossil.)
- plants, description of some obtained in 1870 . . . . . H, Ann 5, Supp  
distribution of, in different groups of . . . . . H, Ann 7, pp 378-390  
forests of Yellowstone Park . . . . . H, Bull, vol v, No 1, pp 125-132  
of North America . . . . . H, Ann 5, pp 304-318  
of North American Lignitic, considered as evidence of the age of the  
formation . . . . . H, Ann 8, pp 275-315  
of the West . . . . . H, Mon VII; H, Ann 6, pp 371-427  
(See, also, Plants, fossil.)
- vertebrates, description of . . . . . H, Bull, vol IV, No 2, pp 379-396  
fishes of shales of Colorado, South Park . . . H, Bull, vol I, ser 2, No 1, pp 3-5  
of shales of Green River, Wyoming . . . . . H, Ann 4, pp 425-431  
fishes, fresh-water, of Rocky Mountains, supplementary notices of. . H, Bull,  
vol I, ser 1, No 2, pp 49-51  
mammals from Wyoming, Sweetwater River, remains of . . . . . H, Mon I,  
pp 197-209  
of Oregon, John Day River . . . . . H, Mon I, pp 210-226  
of western States and Territories . . . . . H, Ann 4,  
pp 340-370; H, Mon I, pp 227-265; H, Mon III  
of Wyoming . . . . . H, Ann 5, pp 353-372  
(See, also, Vertebrates, fossil; Invertebrates, fossil; Plants, fossil.)
- Tertiary lake basin at Florissant, Colorado . . . . . H, Ann 12,  
I, pp 271-293; H, Bull, vol VI, No 2, pp 279-300
- Tertiary orography of Fortieth Parallel region . . . . . K, I, pp 754-761
- Tertiary period, American, climate of, as represented in its flora. . H, Ann 7, pp 419-425  
relations of North American to European . . . . . H, Mon III, pp 21-45
- Tertiary rocks of Basin Ranges . . . . . W, III, pp 172-173  
of California, southeastern . . . . . W, 1876, p 175  
of Colorado, Eagle, Grand, and Gunnison rivers. . . . . H, Ann 8, pp 140-161  
Grand River district . . . . . H, Ann 10, pp 182-185  
North Park . . . . . K, II, pp 127-129  
northwestern . . . . . H, Ann 10, pp 34-39  
San Juan drainage basin . . . . . H, Ann 9, pp 189-190  
south-central, and New Mexico, north-central. . . . W, III, Supp, pp 159-174  
White River district. . . . . H, Ann 10, pp 78-86, 110-111
- of Fortieth Parallel region . . . . . K, I, pp 359-458  
of Idaho, Bear River region . . . . . H, Ann 11, pp 634-641  
of Kansas . . . . . H, Ann 9,  
pp 278-280; H, Bull, vol II, No 3, pp 211-213  
of Missouri region, upper . . . . . H, Mon IX, pp lxi-lxiv  
of Nebraska . . . . . LOR, 1867, p 173; H, Ann 1, pp 55-56  
of New Mexico, north-central, and Colorado, south-central. . . . W, III, Supp,  
pp 159-174
- of Utah, Bear River region . . . . . H, Ann 11, pp 634-641  
of Utah, eastern . . . . . W, III, pp 265-274  
Grand River district . . . . . H, Ann 10, pp 182-185  
high plateaus . . . . . HP, pp 158-159  
White River district . . . . . H, Ann 10, pp 78-86, 110-111
- of Western States, mutual relations of Cretaceous and . . . H, Ann 7, pp 431-444  
of Wyoming, Green River district . . . . . H, Ann 11, pp 634-641  
Salt Wells, vicinity of . . . . . H, Ann 11, pp 127-133  
Sweetwater Valley . . . . . H, Ann 11, pp 110-114  
Wind River Range . . . . . H, Ann 11, p 88

- Tertiary and Cretaceous formations of the West, mutual relations of.....H, Bull,  
vol i, ser 1, No 2, pp 5-16
- Tertiary and Cretaceous fossils, fishes of, from west of Mississippi River....H, Bull,  
vol iv, No 1, pp 67-77
- invertebrates of the Upper Missouri country.....H, Mon ix
- plants of Kansas and Nebraska.....H, Ann 4, pp 370-385
- of North America, catalogue of.....H, Ann 10, pp 487-520
- of the western Territories.....H, Mon viii
- illustrations of.....H, Uncl 15
- (See, also, Vertebrates, fossil; Invertebrates, fossil; Plants, fossil.)
- Tertiary and Cretaceous periods of Kansas, notes on.....H, Ann 9, pp 277-294
- Teton Mountains, Wyoming, geology of.....H, Ann 6,  
pp 214-223; H, Ann 11, pp 411-424, 432-438
- Teton River, course and character of.....LOR, 1868, p 227; H, Ann 2, p 73
- Tetraonidae, North American, osteology of.....H, Ann 12,  
i, pp 653-726; H, Bull, vol vi, pp 309-350
- Texas, astronomical work in New Mexico and.....W, 1879, pp 268-270
- birds of Rio Grande, lower.....H, Bull,  
vol iv, No 1, pp 1-66; H, Bull, vol v, No 3, pp 371-440
- of Red River region.....H, Bull, vol iii, No 3, pp 655-695
- elevations in.....H, Bull, vol v, No 3, pp 461-463;  
H, Misc 1 (3d ed), pp 9-10; H, Misc 1 (4th ed), pp 102-106
- fishes of Rio Grande at Brownsville, notes on.....H, Bull,  
vol iv, No 2, pp 397-406; H, Bull, vol iv, No 3, pp 663-667
- Fort Bliss, astronomical work at.....W, 1879, pp 47-81
- locusts in.....H, Uncl 14, pp 57-63; App, pp 63-82
- Permian beds of, Batrachia and Reptilia of, some new.....H, Bull,  
vol vi, No 1, pp 79-82
- pigs, solid hoofed, apparently established in, discussion of a breed of...H, Bull,  
vol iv, No 1, pp 295-297
- Rio Grande, birds of.....H, Bull,  
vol iv, No 1, pp 1-66; H, Bull, vol v, No 3, pp 371-440
- fishes from, at Brownsville, notes on a collection of.....H, Bull, vol iv,  
No 2, pp 397-406; H, Bull, vol iv, No 3, pp 663-667
- Tineina from.....H, Bull, vol iv, No 1, pp 79-106
- Textile fabrics, basket-work, etc., of Indians of southern California.....W, vii,  
pp 239-250
- The Dalles, Oregon, astronomical work at.....W, 1879, pp 17-41
- Thin section. (See name of rock.)
- Thinolite, analysis of, from Nevada, Carson Desert, Pyramid Lake, and Wads-  
worth.....K, i, p 528
- analysis of, from Utah, Salt Lake Desert.....K, i, p 502
- Thomas (C.), agricultural resources of the Territories.....H, Ann 5, pp 205-279
- agriculture of Colorado.....H, Ann 3, pp 131-155; H, Ann 1-3, pp 229-251
- agriculture of Wyoming.....H, Ann 4, pp 191-264
- ancient mounds of Dakota.....H, Ann 6, pp 655-658
- descriptions of some new Orthoptera and notes on some species but little  
known.....H, Bull, vol i, ser 1, No 2, pp 63-71
- list and description of new species of Orthoptera.....H, Ann 4, pp 263-284
- notes on Orthoptera.....H, Ann 6, pp 719-725
- notes on the saltatorial Orthoptera of the Rocky Mountain regions...H, Ann 5,  
pp 423-466
- on the Orthoptera collected by Dr. Elliott Coues in Dakota and Montana  
during 1873.....H, Bull, vol iv, No 2, pp 481-501

- Thomas (C.), physical geography and agricultural resources of Minnesota, Dakota, and Nebraska.....H, Ann 6, pp 273-313
- report upon the collections of Orthoptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871-1874.....W, v, pp 843-908
- synopsis of the Acrididæ of North America .....H, Mon v
- study of the manuscript Troano .....Eth, v
- Thomas (H. G.), ancient mounds of Dakota .....H, Ann 6, pp 656-658
- Thomas Fork, Idaho, geology near.....H, Ann 11, pp 581-582
- Thomomys, abstract of study of Geomys and.....ECR, pp 217-279
- Thompson (A. H.), irrigable lands of that portion of Utah drained by the Colorado River and its tributaries.....AL, pp 150-164
- report on a trip to the mouth of the Dirty Devil River.....ECR, pp 134-145
- Thompson (G.), notes on the pueblos and their inhabitants .....W, vii, pp 319-324
- Thompson Plateau, geology of .....H, Ann 11, pp 538-539
- Thorell (T.), descriptions of the Aranæ collected in Colorado in 1875 by A. S. Packard, jr.....H, Bull, vol iii, No 2, pp 477-529
- Thousand Lake Mountain, Utah, geology of.....HP, pp 279-283
- Three Forks, Montana, geology between Helena and.....H, Ann 6, pp 81-82
- Three-Pine Canyon, Idaho, geology near.....H, Ann 11, p 339
- Tiger district, Arizona, notes on .....W, 1871, pp 54-55
- Tillman (E.), report of .....W, 1877, pp 1253-1256
- Tillman (S. E.), report of .....W, 1878, pp 107-112; W, 1879, pp 209-214
- Timber in the Territories.....H, Ann 5, pp 218-227
- Timber line, elevation of .....H, Ann 6, p 751; H, Misc 1, p 36; H, Misc 1 (3d ed), p 29; H, Misc 1 (4th ed), p 140
- Timber, pine, destruction of, in Rocky Mountains.....H, Ann 7, pp 538-539
- Timpahute district, Nevada, notes on .....W, 1871, p 44
- Tin ore, analysis of, from California, Temescal.....W, 1876, p 185
- Tineina of Colorado .....H, Bull, vol iii, No 1, pp 121-142
- of Colorado, distribution of .....H, Bull, vol iii, No 1, pp 147-150
- of Texas and more northern localities.....H, Bull, vol iv, No 1, pp 79-106
- of United States and Canada, index to.....H, Bull, vol iv, No 1, pp 125-167
- (See, also, Invertebrates.)
- Tineina and their food plants .....H, Bull, vol iv, No 1, pp 107-123
- Toano group of mountains, Nevada, geology of .....K, ii, pp 517-520
- Togwotee Pass, Wyoming, geology near .....H, Ann 11, pp 471-473
- Tongas language, vocabulary of.....Eth, i, pp 135-142
- (See, also, Ethnology and archæology.)
- Tonto group, exposures of .....UM, pp 56-57
- Topographic work, methods of .....W, i, pp 331-404; H, Ann 10, pp 298-310
- origin, functions, progress, cost, etc., of.....W i, pp 438-468
- Topography, relation of structure to, in Black Hills .....BH, pp 210-214
- Tortrix, Cranberry, description of.....H, Ann 10, p 523
- Toiyobe Range, Nevada, geology of.....K, ii, pp 627-631; K, iii, pp 320-348
- granite in .....K, i, pp 75-77
- Trachorheites of Colorado, Grand River district.....H, Ann 9, pp 93-94
- of Colorado, Gunnison River.....H, Ann 8, pp 168-171
- occurrence and character of.....H, Ann 10, pp 213-232
- White River district.....H, Ann 10, pp 111-112
- Trachyte, analysis of, from Arizona, Sierra Caliuero.....W, iii, pp 648, 651
- analysis of, from California, Mount Shasta .....K, i, p 604
- from Colorado, North Park.....K, ii, p 125
- between North and Middle parks.....K, i, p 604
- Steves Fork .....K, ii, p 176



|   |  |
|---|--|
| Trachyte, analysis of, from Idaho, Shoshone Falls .....                           | K, I, p 604  |
| analysis of, from Idaho, Snake River, vicinity of .....                           | K, I, p 604  |
| from Nevada, Euclid Peak .....  | K, II, p 522   |
| Pine Nut Canyon .....   | K, II, p 701   |
| Truckee Ferry .....   | K, II, p 833   |
| Truckee Ferry, Truckee Canyon, Washoe, Virginia Mountains,<br>Peoquop range ..... | K, I, p 604  |
| from Oregon, Mount Hood .....   | K, I, p 605  |
| from Utah, Midway, vicinity of .....  | K, II, p 320   |
| Wasatch Mountains .....   | K, I, p 604  |
| from Washington, Mount Rainier .....  | K, I, p 604  |
| from Wyoming, Leucite Hills .....   | K, I, p 604  |
| characteristics of .....  | HP, pp 104-108   |
| of Basin Ranges .....   | W, III, pp 255-256   |
| of Black Hills, petrography of .....  | BH, pp 488-492   |
| of Colorado, El Late Mountains .....  | H, Ann 9, pp 272-273   |
| Gunnison region .....   | H, Ann 8, pp 163-168   |
| occurrence and character of .....   | H, Ann 10, pp 214-229, 232-245                               |
| Rio Grande .....  | H, Ann 9, pp 156-157   |
| White River district .....  | H, Ann 10, p 112   |
| of Fortieth Parallel region .....   | K, I, pp 578-605   |
| microscopic petrography of .....  | K, VI, pp 143-162  |
| of Nevada, Washoe district .....  | K, III, pp 33-36   |
| of New Mexico, north central .....  | W, III, Supp, pp 164-167                                     |
| of Utah, Grand River district .....   | H, Ann 9, pp 94-98   |
| White River district .....  | H, Ann 10, p 112   |
| Traverse, logarithm, and altitude tables .....                                    | W, Uncl 11   |
| Tree growth on the plains .....   | H, Ann 4, pp 456-457   |
| Trees, fruit and forest, in Nebraska, cultivation of .....                        | LOR, 1867,<br>pp 131-133, 135-136; H, Ann 1, pp 10-12, 14-16 |
| Trenton group, invertebrate fossils of, from Nevada and New Mexico .....          | W, IV,<br>pp 62-78; W, Uncl 6, pp 15-23                      |
| invertebrates of, of southwest .....  | W, IV, pp 62-78  |
| Trephining, on cranial amulets and prehistoric .....                              | Eth v  |
| (See, also, Ethnology and archæology.)  |  |
| Triangulation in Colorado .....   | H, Ann 10, pp 275-310; H, Bull, vol III, No 3, pp 706-728    |
| in Fortieth Parallel region .....   | K, I, pp 764-768   |
| in Wyoming .....  | H, Ann 11, pp 651-672  |
| Triassic fossils, invertebrates of Fortieth Parallel region .....                 | K, IV, pp 99-129, 280-283                                    |
| of southeastern Idaho .....   | H, Ann 12, I, pp 105-118                                     |
| (See, also, Vertebrates, fossil; Invertebrates, fossil; Plants, fossil.)          |  |
| Triassic rocks of Basin Ranges .....  | W, III, pp 175-176   |
| of Black Hills .....  | BH, pp 131-151   |
| of Colorado, central .....  | W, III, pp 378-381   |
| Eagle, Grand and Gunnison rivers .....  | H, Ann 8, pp 121-124   |
| Front Range .....   | H, Ann 8, pp 42-44; K, II, pp 33-37                          |
| east of .....   | H, Ann 7, pp 95-98   |
| Grand River district .....  | H, Ann 9, pp 80-86; H, Ann, 10 pp 178-180                    |
| northwestern .....  | H, Ann 10, pp 26-28  |
| of Colorado Plateau .....   | W, III, pp 282-285   |
| of Fortieth Parallel area .....   | K, I, pp 249-284   |
| of Idaho, eastern .....   | H, Ann 11, pp 492-494, 622-623                               |
| of Utah, Grand River district .....   | H, Ann 9, pp 80-86; H, Ann 10, pp 178-180                    |
| high plateaus .....   | HP, pp 148-150   |
| of Wyoming, Colorado Range .....  | K, II, pp 33-37  |

- Triassic rocks of Wyoming, Rawlings Peak, vicinity of.....H, Ann 11, p 121  
of Wyoming, Sweetwater Valley.....H, Ann 11, pp 105-107  
western.....H, Ann 11, pp 492-494, 622-623  
Wind River Range, vicinity of.....H, Ann 11, pp 80-82  
Red beds of Colorado, Front Range.....H, Ann 8, pp 42-44  
Trinidad, Colorado, astronomical determinations at.....W, II, pp 289-312  
geology near.....H, Ann 3, pp 55-56; H, Ann 1-3, pp 155-156  
Trinidad region, Colorado, geology of.....H, Ann 9, pp 192-207  
Trinity Mountains, Nevada, mining and milling in.....K, III, pp 297-308  
Troano, study of the manuscript.....Eth, v  
(See, also, Ethnology and archæology.)  
Trouessart (E. L.), revision of the genus *Sciurus*...H, Bull, vol VI, No 2, pp 301-307  
Truckee group of Fortieth Parallel region.....K, I, pp 412-424  
Truckee Range, Nevada, Archean rocks of.....K, I, pp 94-96  
geology of.....K, II, pp 803-811  
Truckee River region, Nevada, geology of.....K, II, pp 817-853  
Tsim-sian Indians, use of numerals among.....Eth, I, pp 155-156  
(See, also, Ethnology and archæology.)  
Tsim-sian language, vocabulary of.....Eth, I, pp 143-153  
(See, also, Ethnology and archæology.)  
Tuckerman (E.), Lichenes of Great Basin.....K, v, pp 412-413  
list of Lichenes collected in the Southwest.....W, VI, pp 350-351  
Tucubits Mountains, Nevada, geology of.....K, II, pp 523-527  
Tufa, analysis of, from Nevada, Carson Desert.....K, II, p 745  
analysis of, from Nevada, Carson River.....K, II, p 769  
from Nevada, Pyramid Lake.....K, II, p 823  
Truckee Valley.....K, II, p 819  
from Utah, Ibenpah Mountains.....K, II, p 473  
Medway.....K, II, p 319  
of Colorado, Florissant.....H, Ann 12, I, pp 276-278  
of Utah, high plateaus.....HP, pp 71-74  
Tuff, analysis of, from Arizona, Peloncillo Mountains, vicinity of.....W, III, p 643  
Turquois, analysis of, from New Mexico, Los Cerillos, and from Persia.....W, III,  
Supp, p 405; W, 1875, p 108  
of New Mexico, Los Cerillos.....W, III, Supp, pp 404-405  
Tuscarora district, Nevada, notes on.....W, 1871, p 35  
Tushar Plateau, Utah, geology of.....HP, pp 169-180  
Tuttle (H. P.), astronomy and barometric hypsometry of the Black Hills.....BH,  
pp 539-555  
Twana Indians of the Skokomish Reservation, Washington, customs, language,  
etc., of.....H, Bull, vol III, No 1, pp 57-114  
(See, also, Ethnology and archæology.)  
Twin Creek, Wyoming, geology near.....H, Ann 11, pp 575-576  
Two Ocean Pass, Wyoming, discussion of.....H, Bull, vol v, No 2, pp 223-225  
Tyboe district, Nevada, notes on.....W, 1871, p 40  
Ubehebe district, California, notes on.....W, 1876, pp 64-65  
Uinta group, character of.....H, Mon III, p 12  
exposures of.....UM, p 61  
of Colorado, northwestern.....H, Ann 10, pp 37-39  
of Fortieth Parallel region.....K, I, pp 405-407  
of Uinta Mountains.....UM, pp 141-144  
Uinta Lake (Tertiary), extent of.....K, I, pp 449-450  
Uinta Mountains, Archean rocks of.....K, I, pp 42-44  
east slope of, geology of.....K, II, pp 277-282

- Uinta Mountains, eastern portion of, geology of.....UM  
     geology of.....H, Ann 4, pp 41-54  
     glaciers, extinct, of.....K, I, pp 470-473  
     Jurassic rocks of.....K, I, pp 290-293  
     northern slopes of, geology of.....K, II, pp 254-261  
     Paleozoic rocks of.....K, I, pp 139-154  
     physical features of.....K, II, pp 194-197  
     southern flanks of, geology of.....K, II, pp 298-306  
     Triassic rocks of.....K, I, pp 259-264  
     western portion of, geology of.....K, II, pp 311-325  
 Uinta uplift, Utah, geology of.....K, II, pp 198-206  
 Uinta structure, features of.....UM, pp 11-14  
 Uinta Valley, Utah, Tertiary rocks.....K, II, pp 307-310  
 Union Pacific Railroad, geology along route of, Leavenworth to Fort Hays  
     H, Uncl I, pp 66-69  
 Utah, Abajo Mountains, geology of.....H, Ann 10,  
     pp 189-193; H, Bull, vol III, No 3, p 558  
     agriculture in northeastern.....H, Ann 5, pp 237-248  
     Aquarius Plateau, geology of.....HP, pp 284-298  
     Aqui Mountains, geology of.....K, II, pp 456-460  
     Ashley Creek Basin, geology of.....K, II, pp 291-298  
     astronomical observations in.....W, 1874, pp 55-68  
         in Montana, Wyoming, Nebraska, Colorado, New Mexico, Nevada,  
         and.....W, II, pp 1-491  
     Awapa Plateau, geology of.....HP, pp 272-276  
     batrachians of. (See Reptiles and batrachians.)  
     Bear Lake Plateau, geology of.....H, Ann 11, pp 582-587  
     Bear Lake Valley, geology of.....H, Ann 11, pp 587-589  
     Bear River, geology from Salt Lake Valley to.....H, Ann 4, pp 147-161  
     Bear River Basin, topography of.....H, Ann 11, pp 697-702  
     Bear River Range, geology of.....H, Ann 11, pp 598-600  
     Bear River region, geology of.....K, II, pp 326-339  
     Beaver, astronomical determinations at.....W, II, pp 57-71  
     birds, annotated list of.....W, Uncl 4, pp 39-54; W, Uncl 7  
         collected in California, Nevada, Arizona, New Mexico, Colorado,  
         and.....W, v, pp 131-507  
         in Nevada and.....W, Uncl 4, pp 5-33  
         in Wyoming, Idaho, and, in 1872.....H, Ann, 6, pp 670-715  
     Book Cliffs. (See Roan Cliffs.)  
     Box Elder region, geology of.....K, II, pp 403-406  
     butterflies collected in Colorado and, in 1875, list of.....H, Bull,  
         vol II, No 3, pp 269-270  
         collected in northern Arizona and southern, in 1877.....H, Bull,  
         vol IV, No. 1, pp 253-258  
     Cache Valley, geology of.....H, Ann 5, pp 19-21; H, Ann 11, pp 603-606  
     cave fauna in.....H, Bull, vol III, No 1, pp 157-169  
     climate at Salt Lake City.....H, Ann 5, p 236  
     coal in.....H, Ann 4, pp 328-329  
     Coalville district, coal in.....K, III, pp 467-472  
     Coleoptera collected in portions of California, Nevada, Arizona, New  
         Mexico, Colorado, and.....W, v, pp 809-827  
     Colorado River drainage basin, irrigable lands in.....AL, pp 150-164  
     Desert Mountains, granite of.....K, I, p 55  
     Desert region, geology of.....K, II, pp 462-468

- Utah, dialects of, comparative vocabulary of.....H, Bull, vol III, No 3, pp 533-545  
East Fork Canyon, geology of.....HP, pp 243-248  
elevations in.....H, Miscel 1 (3d ed), p 16;  
H, Miscel 1 (4th ed), pp 106-108; H, Bull, vol V, No 3, p 463  
Ellen, Mount, geology of.....HM, pp 38-49  
Ellsworth, Mount, geology of.....HM, pp 22-27  
explorations in parts of Montana, Idaho, Wyoming, and, for the year  
1872.....H, Ann 6  
Fish Lake Plateau, geology of.....HP, pp 260-267  
fishes collected in portions of California, Nevada, Arizona, New Mexico,  
Colorado, and.....W, v, pp 635-703  
geology of portions of Nevada, Arizona, New Mexico, and...W, III, pp 227-301  
Grand River district, geology of...H, Ann 9, pp 31-101; H, Ann 10, pp 163-185  
topography of.....H, Ann 9, pp 337-350  
Grass Valley, geology of.....HP, pp 248-251  
Great Salt Lake, current, evaporation, etc., of.....W, 1879, pp 228-231  
description of.....H, Ann 5, pp 233-235  
geology of vicinity of.....K, II, pp 431-442  
insects inhabiting.....H, Ann 6, pp 743-746  
level of, fluctuation of.....AL, pp 58-77; K, I, p 497  
region north of, geology of.....K, II, pp 420-430  
region south of, geology of.....K, II, pp 443-446  
Great Salt Lake drainage system, irrigable lands of.....AL, pp 113-127  
Great Salt Lake Valley, agriculture in.....H, Ann 4, pp 237-241  
geology from Bear River to.....H, Ann 4, pp 147-161  
Green River district, geology of.....H, Ann 11, pp 509-646  
Gunnison, astronomical determinations at.....W, II, pp 99-125  
Hemiptera collected in portions of California, Nevada, Arizona, New  
Mexico, Colorado, and.....W, v, pp 829-841  
Henry Mountains, geology of.....HM  
Hilgard, Mount, geology of.....HP, pp 269-271  
Hillers, Mount, geology of.....HM, pp 30-35  
Holmes, Mount, geology of.....HM, pp 27-30  
Hymenoptera collected in portions of Colorado, New Mexico, Arizona,  
Nevada, and.....W, v, pp 705-736  
Ibenpah Mountains, geology of.....K, II, pp 472-476  
invertebrate fossils of portions of Colorado, New Mexico, Arizona, Nevada,  
and.....W, IV, pp 1-219  
iron in southwestern.....W, III, pp 261-263  
kaolin near Gunnison.....W, III, p 263  
lands of, discussion of.....AL, pp 93-112  
leeches, fresh water, collected in portions of Colorado, New Mexico, Ari-  
zona, Nevada, and.....W, v, pp 955-967  
locusts in...H, Ann 9, pp 602-604; H, Uncl 14, pp 102-105, 158, App, pp 253-259  
Lodore Canyon, geology near.....K, II, pp 288-290  
Malade Range and Valley, geology of.....H, Ann 11, pp 606-609  
mammals collected in Idaho, Wyoming, and, in 1872.....H, Ann 6, pp 661-669  
collected in portions of California, Nevada, Colorado, New Mexico,  
Arizona, and.....W, v, pp 35-129  
Markagunt Plateau, geology of.....HP, pp 188-210  
Marvine, Mount, geology of.....HP, p 269  
meteorological observations in Idaho, Montana, and, in 1872.....H, Miscel 2  
mining districts of.....W, 1872, pp 14-26

|  |  |
|--|--|
| Utah, Mollusca, terrestrial and fluviatile, collected in portions of Colorado, New Mexico, Arizona, and .....  | W, v, pp 923-954                         |
| mountain ranges in, features of .....  | W, III, pp 231-240                       |
| Ogden, astronomical determinations at .....  | W, II, pp 7-55                           |
| geology between Fort Hall and .....  | H, Ann 5, pp 13-26; H, Ann 6, pp 197-207 |
| meteorological observations at .....   | H, Miscel 2, pp 60-63                    |
| Ogden Canyon, Paleozoic rocks of .....   | K, I, pp 174-177                         |
| Ogden region, geology of .....   | K, II, pp 394-403                        |
| Ombe Range, granite of .....   | K, I, pp 56-57                           |
| Oquirrh Mountains, geology of .....  | K, II, pp 443-454                        |
| Orthoptera collected in portions of California, Nevada, Arizona, New Mexico, Colorado, and .....               | W, v, pp 843-908                         |
| Paria amphitheater, geology of .....   | HP, pp 253-256                           |
| Paunsagunt Plateau, geology of .....   | HP, pp 251-253                           |
| Pennell, Mount, geology of .....   | HM, pp 35-38                             |
| Plagopterinae and ichthyology of Utah .....  | W, Uncl 8                                |
| plants collected in Arizona, Nevada, and .....   | W, Uncl 5, pp 5-19                       |
| collected in Idaho, Wyoming, Montana, and .....  | H, Ann 6, pp 747-792                     |
| in Nevada, Arizona, New Mexico, Colorado, and, catalogue of, with descriptions of new species .....            | W, VI, pp 53-297                         |
| of Nevada and, catalogue of .....  | K, v, pp 1-496                           |
| plateaus, high, geology of .....   | HP                                       |
| Rabbit Valley, geology of .....  | HP, pp 276-279                           |
| Raft River Mountains, granite of .....   | K, I, pp 54-55                           |
| reptiles and batrachians collected in portions of Nevada, Arizona, New Mexico, Colorado, California, and ..... | W, v, pp 509-584                         |
| Roan or Book Cliffs, geology of .....  | H, Ann 10, pp 173-176                    |
| ruins, ancient, near San Juan River, in Arizona and .....  | H, Bull, vol II, No 1, pp 25-45          |
| St. George, geology between Gila River, Arizona, and .....   | W, III, pp 189-225                       |
| salt in .....  | W, III, p 263                            |
| San Juan River, ruins, ancient, on .....   | H, Bull, vol II, No 1, pp 25-45          |
| Sevier Plateau, geology of .....   | HP, pp 225-251                           |
| Sevier River Valley, agriculture in .....  | H, Ann 4, pp 244-247                     |
| geology of .....   | HP, pp 211-224                           |
| irrigable lands of .....   | AL, pp 128-149                           |
| Terrill, Mount, geology of .....   | HP, pp 267-268                           |
| Thousand Lake Mountain, geology of .....   | HP, pp 279-283                           |
| tribes, ancient, of, bead ornaments used by .....  | H, Bull, vol II, No 1, pp 67-69          |
| Tushar Plateau, geology of .....   | HP, pp 169-180                           |
| Uinta Mountains, Archean rocks of .....  | K, I, pp 42-44                           |
| east slope of, geology of .....  | K, II, pp 277-282                        |
| eastern portion of, geology of .....   | UM                                       |
| geology of .....   | H, Ann 4, pp 41-54                       |
| glaciers, extinct, of .....  | K, I, pp 470-473                         |
| Jurassic rocks of .....  | K, I, pp 290-293                         |
| northern slopes of, geology of .....   | K, II, pp 254-261                        |
| Paleozoic rocks of .....   | K, I, pp 139-154                         |
| physical features of .....   | K, II, pp 194-197                        |
| southern flanks of, geology of .....   | K, II, pp 298-306                        |
| Triassic rocks of .....  | K, I, pp 259-264                         |
| western portion of, geology of .....   | K, II, pp 311-325                        |
| Uinta uplift, geology of .....   | K, II, pp 198-206                        |

- Utah, Uinta Valley, Tertiary rocks of.....K, II, pp 307-310
- Wasatch Plateau, geology of.....HP, pp 160-168
- Wasatch Range, Archean rocks of.....K, I, pp 44-54
- features of.....W, III, pp 233-237
- geology of.....H, Ann 6, pp 192-197; K, II, pp 340-391
- glaciers, extinct, of.....K, I, pp 473-474
- Jurassic rocks of.....K, I, p 293
- Paleozoic rocks of.....K, I, pp 154-181
- trachytes of.....K, I, pp 586-591
- Triassic rocks of.....K, I, pp 264-266
- Wasatch region, northern, geology of.....K, II, pp 393-419
- water supply in.....AL, pp 57-80
- White River district, geology of.....H, Ann 10, pp 61-131
- Weber Canyon, geology of.....K, II, pp 384-392
- (See, also, Fortieth Parallel region; Basin Ranges; Great Basin.)
- Utah Lake Valley, agriculture in.....H, Ann 4, pp 241-244
- Uhler (P. R.), list of Hemiptera of the region west of the Mississippi River,  
    including those collected during the Hayden explorations of  
    1873.....H, Bull, vol I, ser 2, No 5, pp 269-361
- list of Hemiptera collected in eastern Colorado and northeastern New Mex-  
    ico, by C. Thomas, during the expedition of 1869.....H, Ann 4,  
    pp 471-472
- notices of the Hemiptera of the western Territories.....H, Ann 5, pp 392-423
- on the Hemiptera collected by Dr. Elliott Coues in Dakota and Montana  
    during 1873-74.....H, Bull, vol IV, No 2, pp 503-512
- report upon Hemiptera collected in 1874 and 1875.....W, 1877, pp 1322-1334
- report upon the collections of Hemiptera made in portions of Nevada,  
    Utah, California, Colorado, New Mexico, and Arizona, 1871-74.. W, v,  
    pp 829-841
- report upon the insects collected by P. R. Uhler during the explorations of  
    1875, including monographs of the families Cynidae and Saldæ  
    and the Hemiptera collected by A. S. Packard, jr.....H, Bull,  
    vol III, No 2, pp 355-475, No 4, pp 765-796
- Uintacrinus Grinnell, notes on.....H, Bull, vol II, No 4, pp 375-378
- (See, also, Invertebrates, fossil; Vertebrates, fossil.)
- Ulke (H.), list of species of Coleoptera collected by Lieut. W. L. Carpen-  
    ter.....H, Ann 7, pp 566-571
- report upon the collections of Coleoptera made in portions of Nevada,  
    Utah, California, Colorado, New Mexico, and Arizona, 1871-  
    1874.....W, v, pp 809-827
- Uncompahgre Plateau, Colorado, geology and topography of.....H, Ann 9,  
    pp 40-43, 49-50
- Uncompahgre region, Colorado, physical features of.....W, 1876, pp 95-97
- Union mining district, Nevada, description of.....W, 1877, pp 1269
- Union Pacific Railroad, artesian borings along line of.....H, Bull,  
    vol III, No 1, pp 181-185
- geologic reconnaissance along, report of.....H, Ann 6, pp 519-541
- Uniones of Tertiary of Wyoming and Utah, new species of.....H, Bull, vol III,  
    No 3, pp 603-606
- (See, also, Invertebrates, fossil.)
- Unionidae of Mesozoic and Cenozoic of North America, comparison with  
    living species.....H, Bull, vol III, No 3, pp 615-624
- (See, also, Invertebrates; Invertebrates, fossil.)

- Unionidæ and Physidæ collected in Montana in 1876, descriptions of.....H, Bull,  
vol III, No 3, pp 599-602
- (See, also, Invertebrates; Invertebrates, fossil.)
- Unionville, Nevada, mining at.....K, III, pp 308-314
- United States, springs, thermal, of.....H, Ann 12, II, pp 320-327
- United States Geographical Survey west of one hundredth meridian, work of,  
sketch of.....W, I, pp 21-146
- Uplifts in Colorado, northwestern.....H, Ann 10, pp 41-48
- Upper Coal Measures of Great Basin.....K, I, pp 221-226, 241-246
- Uraninite, analysis of, from Colorado, Leavenworth Gulch.....H, Ann 10, p 153
- Ute Lake, extent of.....K, I, pp 445-446
- Utensils and language of modern Utes.....H, Bull, vol II, No 1, pp 71-76
- (See, also, Ethnology and archæology.)
- Utes, language and utensils of.....H, Bull, vol II, No 1, pp 71-76
- (See, also, Ethnology and archæology.)
- Valleys, classification of.....ECR, pp 160-161
- Vancouver's Island, fossils from.....H, Bull, vol II, No 4, pp 351-374
- Vasey (G.), Gramineæ collected in Colorado, Nevada, Arizona, Utah, and  
New Mexico.....W, VI, pp 281-297, 377-378
- plants determined by.....W, Uncl 5, pp 54-57
- Vegetation of Rocky Mountain region.....H, Bull, vol VI, No 1, pp 1-77
- Veins, metalliferous, of California.....W, 1876, p 184
- Veins and lodes, formations, search for, etc.....H, Ann 7, pp 278-280
- Verde River, Arizona, geology between Little Colorado River and..W, III, pp 209-215
- Vermejo Creek region, New Mexico, geology of.....W, III, Supp, pp 248-262
- Vermejo Park, New Mexico, geology of, notes on..H, Bull, vol II, No 4, pp 296-305
- Vermilion Cliff group, exposures of.....UM, p 54
- of Fortieth Parallel region.....K, I, pp 360-377
- Vernilion Creek, Colorado, geology of basin of.....K, I, pp 225-227, 275-277
- rocks exposed on.....K, I, pp 142-144
- Verrill (A. E.), list of leeches collected by Hayden's expedition, 1873..H, Ann 7, p 623
- report upon the collections of fresh-water leeches made in portions of  
Nevada, Utah, Colorado, New Mexico, and Arizona, 1872-74..W, V,  
pp 955-967
- Vertebrate paleontology of Colorado.....H, Ann 7, pp 427-533
- Vertebrates; Ardeidæ, synopsis of American genera of Ciconiidae and.....H, Bull,  
vol IV, No 1, pp 219-251
- Bassarids, species of, descriptions of.....H, Bull, vol V, No 3, pp 331-340
- batrachians and reptiles collected in California, Arizona, and Nevada..W, 1878,  
pp 206-226
- collected in portions of Nevada, Utah, California, Colorado, New  
Mexico, and Arizona.....W, V, pp 509-584
- of Arizona, synopsis of.....W, V, pp 585-633
- birds, bibliography of American.....H, Bull,  
vol V, No 2, pp 239-330; H, Bull, vol V, No 3, pp 521-1066
- of Arizona, annotated list of.....W, 1875, pp 153-166
- eastern, and New Mexico, western.....W, Uncl 4, pp 95-148
- portions of New Mexico and.....W, 1875, pp 149-153
- of Arizona and adjacent States.....W, V, pp 131-507
- of California, portion of.....W, 1876, pp 224-278
- portions of Nevada and, preliminary report on....W, 1878, pp 185-186
- of California and adjacent States.....W, V, pp 131-507
- of California, Oregon, and Nevada.....W, 1879, pp 282-335

- Vertebrates; birds of Colorado, Denver, vicinity of.....W, Uncl 4, pp 55-69  
 birds of Colorado, Fort Garland, vicinity of.....W, Uncl 4, pp 69-95  
 of Colorado and adjacent States.....W, v, pp 131-507  
 of Colorado Valley, a repository of scientific and popular information  
     concerning North American ornithology.....H, Miscel 11  
 of Dakota, Fort Sisseton, notes on.....H, Bull, vol v, No 1, pp 71-103  
 of Dakota and Montana, along forty-ninth parallel, field notes on...H, Bull,  
     vol iv, No 3, pp 545-661  
 of Great Basin.....K, iv, pp 303-643  
 of Guadeloupe Island.....H, Bull, vol ii, No 2, pp 183-195  
 of Idaho, Wyoming, and Utah.....H, Ann 6, pp 670-715  
 of Michigan, annotated list of.....H, Bull, vol v, No 3, pp 481-497  
 of Montana and Dakota, along forty-ninth parallel, field notes on...H, Bull,  
     vol iv, No 3, pp 545-661  
 of Nebraska, food of, notes on.....H, Uncl 14, App, pp 13-62  
 of Nevada, annotated list of.....H, Bull, vol vi, No 2, pp 203-256  
     bibliography of.....H, Bull, vol vi, No 2, pp 252-256  
     Carson City, vicinity of.....W, 1877, pp 1307-1322  
     portions of California and, preliminary report on...W, 1878, pp 185-186  
 of Nevada and adjacent States.....W, v, pp 131-507  
 of Nevada and Utah.....W, Uncl 4, pp 5-33  
 of New Mexico, portions of Arizona and.....W, 1875, pp 149-153  
     western, and Arizona, eastern.....W, Uncl 4, pp 95-148  
 of New Mexico and adjacent States.....W, v, pp 131-507  
 of Northwest.....H, Miscel 3  
 of Texas, Red River region.....H, Bull, vol iii, No 3, pp 655-695  
     Rio Grande, lower.....H, Bull,  
         vol iv, No 1, pp 1-66; H, Bull, vol v, No 3, pp 371-440  
 of United States, western, geographical distribution and variation in..W, v,  
     pp 23-34  
 of Utah, annotated list of.....W, Uncl 4, pp 39-54; W, Uncl 7  
 of Utah and adjacent States.....W, v, pp 131-507  
 of Utah and Nevada.....W, Uncl 4, pp 5-33  
 of Utah, Wyoming, and Idaho.....H, Ann 6, pp 670-715  
 of Wyoming, list of.....H, Ann 4, pp 462-466  
 of Wyoming, Idaho, and Utah.....H, Ann 6, pp 670-715  
 (See, also, Ornithology.)  
 bison, American, history, habits, range, extermination, etc., of.....H, Ann 9,  
     pp 443-508  
 Cathartidæ, osteology of.....H, Ann 12, i, pp 727-806  
 Cete, bibliography of Sirenia and.....H, Bull, vol vi, No 3, pp 399-562  
 Ciconiidae, synopsis of American genera of Ardeidae and.....H, Bull,  
     vol iv, No 1, pp 219-251  
 Coatis, character, distribution, etc., of.....H, Bull, vol v, No 2, pp 153-174  
 deer, Virginian, consolidation of hoofs of.....H, Bull, vol iv, No 1, pp 293-294  
 Eremophila alpestris, osteology of.....H, Ann 12, i, pp 627-652;  
     H, Bull, vol vi, No 1, pp 119-147  
 Falconidae, natural arrangement of, outlines of.....H, Bull, vol i, ser 2,  
     No 4, pp 225-231  
     studies of American.....H, Bull, vol ii, No 2, pp 91-182  
 finches, gray-crowned purple, monograph of...H, Bull, vol i, ser 2, No 2, pp 51-82  
 fishes of California and Nevada, report on.....W, 1878, pp 187-205  
 of Montana and Dakota, report on.....H, Bull, vol iv, No 4, pp 777-799



- Vertebrates; fishes of Nevada, Utah, California, Colorado, New Mexico, and Arizona, portions of.....W, v, pp 635-703
- fishes of North America, catalogue of fresh-water.....H, Bull, vol iv, No 2, pp 407-442
- of Texas, Rio Grande at Brownsville, notes on.....H, Bull, vol iv, No 2, pp 397-406; H, Bull, vol iv, No 3, pp 663-667
- fishes and reptiles collected in Idaho, Wyoming, Montana, and Utah, H, Ann 5, pp 467-476
- of Wyoming and contiguous territories, report on.....H, Ann 4, pp 432-442
- fur-bearing animals, monograph on.....H, Misc 8
- Geomysidæ, cranial and dental characters of..H, Bull, vol i, ser 2, No 2, pp 83-90
- Geomys, study of Thomomys and.....ECR, pp 217-279
- Geomys tuza, notes on.....ECR, pp 282-285
- Herodiones, studies of the American.....H, Bull, vol iv, No 1, pp 219-251
- Herpetology of Dakota and Montana.....H, Bull, vol iv, No 1, pp 259-291
- Lagopus leucurus, breeding habits, nests, and eggs of.....H, Bull, vol i, ser 2, No 5, pp 263-266
- Lanius ludovicianus excubitorides, osteology of.....H, Bull, vol vi, No 2, pp 351-359
- Leucosticte, monograph on.....H, Bull, vol i, ser 2, No 2, pp 51-82
- Leucosticte tephrocotis, sexual, individual, and geographical variation in H, Bull, vol ii, No 4, pp 345-350
- mammals collected in California in 1875.....W, 1876, pp 305-312
- collected in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871-1874, report on.....W, v, pp 35-129
- collected in Wyoming, list of.....H, Ann 4, pp 461-462
- geographic distribution of.....H, Bull, vol iv, No 2, pp 313-377
- geographical variation among North American, especially in respect to size.....H, Bull, vol ii, No 4, pp 308-344
- of Fort Sisseton, Dakota.....H, Bull, vol iv, No 1, pp 201-218
- of western United States, geographical distribution and variation in W, v, pp 23-34
- mammals, American insectivorous.....H, Bull, vol iii, No 3, pp 631-653
- synopsis of.....H, Bull, vol i, ser 2, No 2, pp 91-120
- mammals and birds collected in Utah, Idaho, and Wyoming in 1872..H, Ann 6, pp 661-715
- Mephitinæ, cranial and dental characters of.....H, Bull, vol i, ser 2, No 1, pp 7-15
- Mustelidæ, monograph of.....H, Misc 8
- Nasua, character, distribution, etc., of.....H, Bull, vol v, No 2, pp 153-174
- Passer domesticus, status of, in America, with special reference to the western States and Territories.....H, Bull, vol v, No 2, pp 175-193
- pigs, solid-hoofed, apparently established in Texas, discussion of..H, Bull, vol iv, No 1, pp 295-297
- Pinnipeds, history of North American.....H, Misc 12
- Plagopterinæ and ichthyology of Utah.....W, Uncl 8
- Polybori, monograph of.....H, Bull, vol i, ser 2, No 6, pp 451-473
- ptarmigan, white-tailed, breeding habits, nests, and eggs of.....H, Bull, vol i, ser 2, No 5, pp 263-266
- Pythonomorpha, discussion of Owen's paper on.....H, Bull, vol iv, No 1, pp 299-311
- reptiles and batrachians of Arizona, synopsis of.....W, v, pp 585-633
- of California, Arizona, and Nevada.....W, 1878, pp 206-226

- Vertebrates; reptiles and batrachians of Nevada, Utah, California, Colorado,  
New Mexico, and Arizona, portions of.....W, v, pp 509-584
- reptiles and fishes collected in Idaho, Wyoming, Montana, and Utah.H, Ann 5,  
pp 467-476
- of Wyoming and contiguous Territories.....H, Ann 4, pp 432-442
- Rodentia, monograph of North American.....H, Mon xi
- Sciurus, revision of genus.....H, Bull, vol vi, No 2, pp 301-307
- Sciuri, synonymatic list of American.....H, Bull, vol iv, No 4, pp 877-887
- sea bears, seals, walruses, and sea lions, monograph on.....H, Miscel 12
- Sirenia, bibliography of Cete and.....H, Bull, vol vi, No 3, pp 399-562
- Sparrow, English, status of, in America, with special reference to western  
States and Territories.....H, Bull, vol v, No 2, pp 175-193
- Speotyto cunicularia hypogæa, osteology of.....H, Ann 12, i,  
pp 593-626; H, Bull, vol vi, No 1, pp 87-117
- squirrels, arboreal, synonymatic list of American.....H, Bull,  
vol iv, No 4, pp 877-887
- Tetraonidæ, North American, osteology of.....H, Ann 12, i,  
pp 653-726; H, Bull, vol vi, No 2, pp 309-350
- Thomomys, study of Geomys and.....ECR, pp 217-279
- Zapus hudsonius, account, critical, descriptive, and historical, of.....H, Bull,  
vol i, ser 2, No 5, pp 254-262
- Vertebrates, fossil; Batrachia and Reptilia of Permian beds of Texas, some  
new.....H, Bull, vol vi, No 1, pp 79-82
- bird from insect-bearing shales of Colorado, description of.....H, Bull,  
vol iv, No 2, pp 443-445
- bird, wading, from Amyzon shales.....H, Bull, vol vi, No 1, pp 83-85
- Canidæ of the Loup Fork epoch.....H, Bull, vol vi, No 2, pp 387-390
- Canidæ and Nimravidæ of Miocene period....H, Bull, vol vi, No 1, pp 165-181
- Dinosaurian, carnivorous, from Dakota beds of Colorado.....H, Bull,  
vol iii, No 4, pp 805-806
- Erisichte, discussion of genus.....H, Bull, vol iii, No 4, pp 821-823
- fishes of Carboniferous of Kansas, notice of some.....H, Mon i, pp 311-314
- of Coal Measures, Upper, of Nebraska.....H, Uncl 1, pp 239-245
- of Cretaceous and Tertiary deposits west of Mississippi River.....H, Bull,  
vol iv, No 1, pp 67-77
- of Green River shale of Wyoming.....H, Mon i, pp 194-197
- of Tertiaries of the Rocky Mountains, supplementary notice of....H, Bull,  
vol i, ser 1, No 2, pp 49-51
- of Tertiary shales of South Park.....H, Bull, vol i, ser 2, No 1, pp 3-5
- of Green River, Wyoming.....H, Ann 4, pp 425-431
- fishes and reptiles of Cretaceous formations of Interior region.....H, Mon i,  
pp 266-310
- of Cretaceous of Kansas.....H, Ann 4, pp 385-425
- ichthyological fauna of the Green River shales, contributions to knowl-  
edge of.....H, Bull, vol iii, No 4, pp 806-819
- Nimravidæ and Canidæ of the Miocene period..H, Bull, vol vi, No 1, pp 165-181
- Odontornithes, monograph on.....K, viii
- of Amyzon beds.....H, Mon, iii, pp 742-757
- of Bridger formation of Wyoming.....H, Mon, i, pp 15-194
- of Bridger, Puerco, and Wasatch groups.....H, Mon iii, pp 49-742
- of Colorado.....H, Ann 7, pp 427-533
- of Cretaceous of Kansas.....H, Ann 5, pp 327-349
- of Missouri River region.....H, Bull, vol iii, No 3, pp 577-597
- of North America, synopsis of.....H, Mon ii, pp 245-302
- of West.....H, Mon ii; H, Bull, vol i, ser 1, No 2, pp 5-48

|   |  |
|---|--|
| Vertebrates, fossil of Dakota and upper Tertiary formations .....           | H, Bull,                                     |
|   | vol iv, No 2, pp 379-396                     |
| of Eocene of Colorado .....   | H, Ann 7, pp 456-461                         |
| of New Mexico .....   | W, iv, pt ii, pp 37-282                      |
| systematic catalogue of .....   | W, Uncl 9                                    |
| of Wyoming .....  | H, Ann 6, pp 543-649                         |
| of Wind River .....   | H, Bull, vol vi, No 1, pp 183-202            |
| of Eocene and Pliocene formations of New Mexico .....                       | W, 1874, pp 115-130                          |
| of Eocene plateau of New Mexico, list of .....                              | W, 1875, pp 93-96                            |
| of Europe and North America, relations of horizons of .....                 | H, Bull, vol v, No 1,                        |
|   | pp 33-54                                     |
| of John Day and White River groups .....                                    | H, Mon iii, pp 759-1002                      |
| of Loup Fork beds of Colorado .....   | H, Ann 7, pp 518-532                         |
| of New Mexico .....   | W, iv, pt ii, pp 283-365                     |
| of Mesozoic of New Mexico .....   | W, iv, pt ii, pp 26-36b                      |
| of Miocene of Colorado .....  | H, Ann 7, pp 461-518                         |
| of Oregon, observations on .....  | H, Bull, vol v, No 1, pp 55-69               |
| of New Mexico, collected in 1874 .....                                      | W, iv, pt ii                                 |
| of Pliocene of Colorado, northern .....                                     | H, Bull, vol i, ser 1, No 1, pp 9-28         |
| of Pliocene and Eocene of New Mexico .....                                  | W, 1874, pp 115-130                          |
| of Puerco, Wasatch, and Bridger groups .....                                | H, Mon iii, pp 49-742                        |
| of Santa Fe marls .....   | W, 1875, pp 68-76                            |
| of Tertiary of Oregon, John Day River .....                                 | H, Mon i, pp 210-226                         |
| of western States and Territories .....                                     | H, Ann 4,                                    |
|   | pp 340-370; H, Mon i, pp 227-265, H, Mon iii |
| of Wyoming .....  | H, Ann 5, pp 353-372                         |
| Sweetwater River .....  | H, Mon i, pp 197-209                         |
| of Tertiary, upper, and Dakota formations .....                             | H, Bull, vol iv, No 2, pp 379-396            |
| of Vermilion Creek group, list of .....                                     | K, i, pp 376-377                             |
| of Wasatch strata .....   | H, Ann 5, pp 350-353                         |
| of Wasatch, Puerco, and Bridger groups .....                                | H, Mon iii, pp 49-742                        |
| of western Territories .....  | H, Mon i                                     |
| of White River and John Day groups .....                                    | H, Mon iii, pp 759-1002                      |
| reptiles and fishes of the Cretaceous rocks of Kansas .....                 | H, Ann 4, pp 385-425                         |
| of Cretaceous formations of Interior region .....                           | H, Mon i, pp 266-310                         |
| Reptilia and Batrachia of Permian beds of Texas, some new .....             | H, Bull,                                     |
|   | vol vi, No 1, pp 79-82                       |
| Rhinocerotidae of North America, extinct species of, and their allies ..... | H, Bull,                                     |
|   | vol v, No 2, pp 227-237                      |
| Rodentia of Miocene of North America, review of .....                       | H, Bull,                                     |
|   | vol vi, No 2, pp 361-386                     |
| Virginia City, Nevada, astronomical determinations at .....                 | W, ii, pp 183-210                            |
| Virginia City, Idaho, geology near .....                                    | H, Ann 5, pp 171-172                         |
| Virginia Range, Nevada, geology of .....                                    | K, ii, pp 824-826; K, iii, pp 11-36          |
| Vocabulary of forty Indian languages .....                                  | W, vii, pp 424-485                           |
| (See, also, Ethnology and archæology.)                                      |  |
| Volcanic action, causes of .....  | HP, pp 113-142                               |
| Volcanic region in Arizona and New Mexico, geology of .....                 | W, iii, pp 525-541                           |
| Volcanic rocks, classification of .....                                     | HP, pp 82-112                                |
| correlation and succession of .....   | K, i, pp 678-696                             |
| fusion, genesis, and classification of .....                                | K, i, pp 696-725                             |
| of Basin Ranges .....   | W, iii, pp 118-155, 253-257                  |
| of Black Hills .....  | BH, pp 189-203                               |
| of Colorado, Huerfano Park and Spanish Peaks .....                          | H, Ann 9, pp 127-136                         |
| North Park .....  | K, ii, pp 112-127                            |

- Volcanic rocks of Colorado, San Juan region ..... H, Ann 8, pp 193-209  
     of Colorado Plateau ..... W, III, pp 297-299  
     of Fortieth Parallel region ..... K, I, pp 545-725  
     of Green River Basin ..... K, II, pp 236-238  
     of Nevada, Piñon Range ..... K, II, pp 558-562  
     of Utah, high plateaus ..... HP, pp 55-142  
     quantitative chemical relations of ..... K, I, pp 678-681
- Vulture mine, Arizona, notes on ..... W, 1871, p 56
- Wachoe Mountains, Nevada, geology of ..... K II, pp 476-483  
     granite of ..... K, I, pp 59-60
- Wahweah Range, Nevada, geology of ..... K, II, pp 566-569  
     granite of ..... K, I, p 74
- Wakynakaine language, vocabulary of ..... Eth, I, pp 248-265  
     (See, also, Ethnology and archæology.)
- Walla-Walla, Wash., astronomical work at ..... W, 1879, pp 10-17
- Walnut Grove district, Arizona, notes on ..... W, 1871, pp 55-56
- Walruses, sea-lions, sea-bears, and seals of North America, monograph of. H, Miscel 12  
     (See, also, Vertebrates.)
- Warm Springs Creek, Wyoming, geology near ..... H, Ann 12, I, pp 235-237
- Wasatch group, extent and character of ..... H, Mon III, pp 7-11  
     fossils of, from White River Valley, Colorado ..... H, Ann 11, pp 226-229  
     fossils, invertebrate, of, list of ..... H, Bull, vol III, No 3, p 611  
     fossils, vertebrate, of ..... H, Ann 5, pp 350-353  
         of Bridger group and ..... H, Mon III, pp 49-742  
         from New Mexico ..... W, IV, pt II, pp 269-282  
     occurrences and age of ..... H, Ann 8, p 147  
     of Colorado, Grand River district ..... H, Ann 10, p 184  
         northwestern ..... H, Ann 10, p 35  
         White River district ..... H, Ann 10, pp 79-82, 110  
     of Utah, White River district ..... H, Ann 10, pp 79-82, 110  
     of Wyoming, Green River region ..... H, Ann 11, pp 635-636  
         Salt Wells, vicinity of ..... H, Ann 11, pp 127-133  
         Wind River Range, vicinity of ..... H, Ann 11, p 88
- Wasatch limestone of Great Basin ..... K, I, pp 195-212, 235-240
- Wasatch Plateau, Utah, geology of ..... HP, pp 160-168
- Wasatch Range, Utah, Archean rocks of ..... K, I, pp 44-54  
     features of ..... W, III, pp 233-237  
     geology of ..... K, II, pp 340-391; H, Ann 6, pp 192-197  
     glaciers, extinct, of ..... K, I, pp 473-474  
     Jurassic rocks of ..... K, I, p 293  
     Paleozoic rocks of ..... K, I, pp 154-181  
     trachytes of ..... K, I, pp 586-591  
     Triassic rocks of ..... K, I, pp 264-266
- Wasatch region, northern, Utah, geology of ..... K, II, pp 393-419
- Washakie, Wyoming, Vermilion Creek group near ..... K, I, pp 362-365
- Washakie Basin, Wyoming, geology of ..... K, II, pp 207-222
- Washakie group, occurrences and age of ..... H, Ann 8, p 146
- Washakie Lake (Tertiary), extent of ..... K, I, pp 447-449
- Washburn Range, Wyoming, geology of ..... H, Ann 12, II, pp 32-35  
     topographic features of ..... H, Ann 12, II, p 478
- Washington, astronomical work in California, Oregon, and ..... W, 1879, pp 265-268  
     elevations in ..... H, Miscel 1 (3d ed), p 19; H, Miscel 1 (4th ed), p 108  
     tribes of northwestern Oregon and western ..... Eth, I, pp 157-241

- Washington, Twana Indians of Skokomish Reservation, customs, language,  
etc., of ..... H, Bull, vol III, No 1, pp 57-114
- Walla Walla, astronomical work at ..... W, 1879, pp 10-17
- Washington district, California, notes on ..... W, 1878, p 84
- Washoe district, Nevada, geology of ..... K, III, pp 11-36  
notes on ..... W, 1876, pp 54-55
- Water, analysis of, from Arizona, Mineral Park ..... W, 1876, p 197  
analysis of, from Arizona, northwestern, gypsum spring ..... W, 1876, p 197  
from Arizona, San Francisco River (mineral) ..... W, III, p 616  
from Atlantic Ocean ..... K, II, p 436  
from Bavaria, Isar River ..... W, III, p 576  
from California, Black Lake ..... W, 1876, p 191  
Cabezon Valley (hot spring) ..... W, 1876, p 193  
Coahuila Valley ..... W, 1876, p 196  
Coso Range (thermal spring) ..... W, 1876, p 194  
Inyo County (thermal spring) ..... W, 1876, p 194  
Little Yosemite (soda spring) ..... W, 1876, p 195  
Mohave River, saline flats of ..... W, 1876, p 197  
Owens Lake ..... W, 1876, p 190  
San Bernardino ..... W, 1876, p 193  
San Diego (thermal springs) ..... W, 1876, p 193  
San Fernando Mountain (sulphur spring) ..... W, 1876, p 195  
San Fernando Valley (mineral spring) ..... W, 1876, p 195  
Santa Barbara (thermal springs) ..... W, 1876, p 192  
from Colorado, Canyon (mineral) ..... W, III, p 617  
Carlisle Springs (mineral) ..... W, III, p 622  
Idaho Springs (mineral) ..... W, III, p 485  
Manitou (mineral) ..... W, III, p 619  
Bathing Spring (mineral) ..... H, Ann 6, p 102  
Pagosa Springs (mineral) ..... H, Ann 9, p 185; W, III, p 627  
Parnassus Springs (mineral) ..... W, III, p 620  
Wagon Wheel Gap (mineral) ..... H, Ann 9, p 155; W, III, p 623  
from Idaho, Soda Springs (mineral) ..... H, Ann 11, p 592  
from Mediterranean Sea ..... K, II, p 436  
from Nevada, Comstock vein ..... W, 1878, p 156  
Humboldt Lake ..... K, I, p 528; K, II, p 743  
Pyramid Lake ..... K, I, p 528  
Soda Lakes ..... K, I, p 528; K, II, p 747  
Stones Ferry, salt well near ..... W, 1876, p 192  
Virgin River ..... W, 1876, p 191  
Virginia Range ..... K, II, p 824  
Washoe district, Savage mine ..... K, III, p 87  
from New Mexico, Abiquiu (mineral) ..... W, III, p 625  
Las Vegas (mineral) ..... W, III, p 624; W, III, Supp, pp 405-406  
Ojos Calientes (mineral) ..... W, III, p 614  
Pajarito River (mineral) ..... W, III, p 626  
Rio Grande del Norte ..... W, III, p 576  
San Isidro (mineral) ..... W, III, p 616  
from Palestine, Dead Sea ..... K, II, p 436  
from Persia, Oroomiah Sea ..... K, II, p 436  
from Utah, Great Salt Lake ..... K, I, p 502; K, II, pp 433-436  
Salt Lake City (mineral) ..... K, II, p 438

- Water, analysis of, from Utāh, Sevier Lake.....K, II, p 436  
 analysis of, from various localities (mineral) .....H, Ann 12, II, pp 387-398  
 deposit from, analysis of, from Colorado, Idaho Springs .....W, III, p 485  
 analysis of, from Colorado, Manitou .....H, Ann 5, p 159  
 from Idaho, Soda Springs.....H, Ann 11, p 590
- Water supply of Black Hills.....BH, pp 311-313  
 of Great Basin .....W, III, pp 105-117  
 of Kansas, western, and Colorado, eastern.....H, Ann 4, pp 448-452  
 of Utah .....AL, pp 57-80
- Watson (S.), botany of Fortieth Parallel region.....K, v  
 catalogue of plants collected in Utah, Nevada, and Arizona..W, Uncl 5, pp 5-19  
 descriptions of plants collected in the Southwest.....W, VI, pp 358-359
- Waverly group, invertebrate fossils of, of Fortieth Parallel region..K, IV, pp 251-264
- Weapons, stone, methods of making .....H, Bull, vol III, No 3, pp 547-549  
 (See, also, Implements; Ethnology and archæology.)
- Weaver district, Arizona, notes on.....W, 1871, p 55
- Weber Canyon, Utah, geology of .....K, II, pp 384-392  
 Paleozoic rocks in.....K, I, pp 156-165
- Weber quartzite of Colorado, northwestern.....H, Ann 10, p 23  
 of Great Basin.....K, I, pp 213-221, 240-241
- Weevil, cranberry, description of .....H, Ann 10, pp 525-526
- Wells, artesian. (See Artesian wells.)
- West Humboldt Range, Nevada, Archean rocks of .....K, I, pp 85-87  
 geology of.....K, II, pp 713-731  
 mining in .....K, III, pp 308-316  
 Triassic rocks of .....K, I, pp 267-278
- West Indies, springs, thermal, in.....H, Ann 12, II, p 328
- West Plum Creek, Colorado, geology near.....H, Ann 3, p 40; H, Ann 1-3, p 140
- West Walker River district, California, notes on.....W, 1878, p 86
- Wheeler (G. M.), reconnaissance through southern and southeastern Nevada..W, 1869  
 surveys in charge of, reports on. See pp. 44-65.
- Wheeler Survey, work of, sketch of.....W, I, pp 21-146
- Wheelerite, analysis of, from New Mexico .....H, Ann 10, p 153
- Whipple (C. W.), report of .....W, 1875, pp 44-46; W, 1876, pp 147-150
- White (C. A.), catalogue of the invertebrate fossils hitherto published from  
 the fresh and brackish water deposits of the western portion of  
 North America.....H, Bull, vol III, No 3, pp 607-614  
 certain Carboniferous fossils from the Western States and Territories..H, Ann 12,  
 I, pp 119-141  
 certain Tertiary Mollusca from Colorado, Utah, and Wyoming.....H, Ann 12,  
 I, pp 41-48  
 comparison of the North American Mesozoic and Cenozoic Unionidæ and  
 associated mollusks with living species .....H, Bull, vol III,  
 No 3, pp 615-624  
 conditions of preservation of invertebrate fossils .....H, Bull, vol v,  
 No 1, pp 133-141
- Cretaceous fossils of Western States and Territories.....H, Ann 11,  
 pp 273-319; H, Ann 12, I, pp 3-39
- descriptions of new species of invertebrate fossils from the Laramie group  
 H, Bull, vol IV, No 3, pp 707-719
- descriptions of new species of Uniones and a new genus of fresh-water  
 Gasteropoda from the Tertiary strata of Wyoming and Utah  
 H, Bull, vol III, No 3, pp 603-606

- White (C. A.), descriptions of Unionidæ and Physidæ collected by Prof. E. D. Cope from the Judith River group of Montana Territory during the summer of 1876.....H, Bull, vol III, No 3, pp 599-602
- fossils of the Juratrias of southeastern Idaho....H, Bull, vol v, No 1, pp 105-117
- fossils from the Carboniferous rocks of the Interior States.....H, Ann 12, 1, pp 155-171
- fossils of the Laramie group.....H, Ann 12, 1, pp 49-103
- invertebrate paleontology of the Plateau province .....UM, pp 74-135
- Jurassic fossils from the western Territories.....H, Ann 12, 1, pp 143-153
- on the distribution of molluscan species in the Laramie group .....H, Bull, vol IV, No 3, pp 721-724
- preliminary report on invertebrate fossils.....W, Uncl 6
- remarks on the paleontological characteristics of the Cenozoic and Mesozoic groups as developed in the Green River region .....H, Bull, vol III, No 3, pp 625-629
- remarks upon certain Carboniferous fossils from Colorado, Arizona, Idaho, Utah, and Wyoming, and certain Cretaceous corals from Colorado, together with descriptions of new forms .....H, Bull, vol v, No 2, pp 209-221
- remarks upon the Laramie group.....H, Bull, vol IV, No 4, pp 865-876
- report on the Carboniferous invertebrate fossils of New Mexico .....W, III, Supp, pp iii-xxxvi
- report on the geology of a portion of northwestern Colorado..H, Ann 10, pp 3-60
- report on the paleontological field work for the season of 1877 .....H, Ann II, pp 159-265
- report upon the invertebrate fossils collected in portions of Nevada, Utah, Colorado, New Mexico, and Arizona in 1871-74.....W, IV, pp 1-219
- Triassic fossils of southeastern Idaho.....H, Ann 12, 1, pp 105-118
- White (C. A.) and Nicholson (H. A.), bibliography of North American invertebrate paleontology .....H, Misc 10
- supplement to the bibliography of North American invertebrate paleontology.....H, Bull, vol v, No 1, pp 143-152
- White Cliff group, exposures of .....UM, pp 51-52
- White Pine district, Nevada, geology of, and mining and milling in .....K, III, pp 409-444; W, 1871, p 39
- White Pine Mountains, Nevada, geology of .....K, II, pp 542-547
- White River district, Colorado-Utah, geology of.....H, Ann 10, pp 61-131
- topography of .....H, Ann 10, pp 349-357
- White River group, invertebrate fossils of.....H, Mon IX, pp 598-605
- invertebrate fossils of, list of .....H, Bull, vol III, No 3, p 612
- occurrences and character of .....H, Ann 8, p 150; H, Mon III, pp 13-16
- of Fortieth Parallel region.....K, 1, pp 408-412
- of Missouri region, upper .....H, Mon IX, pp lxi-lxiv
- of Wyoming, eastern .....K, II, pp 65-67
- vertebrates of John Day group and .....H, Mon III, pp 759-1002
- Whitfield (R. P.), paleontology of the Black Hills.....BH, pp 325-468
- preliminary report on the paleontology of the Black Hills.....PBH
- Whitfield (R. P.) and Hall (J.), paleontology of Fortieth Parallel region.....K, IV, pp 199-302
- Williams (S. G.), notes on the geology of some localities near Canyon City, Fremont County, Colorado....H, Bull, vol I, ser 2, No 5, pp 249-251
- Williams River Mountains, Colorado, geology of .....H, Ann 7, pp 189-192

- Willow Creek Basin, Idaho, geology in.....H, Ann 11, pp 349-351
- Willow Creek ridges, Idaho, geology of.....H, Ann 11, pp 351-360
- Wilson (A. D.), means of communication between Denver and San Juan  
mines .....H, Ann 8  
pp 443-449; H, Bull, vol i, ser 2, No 3, pp 145-149
- notes on the geographical work of the United States Geological and Geo-  
graphical Survey of the Territories.....H, Bull,  
vol III, No 3, pp 705-737
- topographical report on southeastern district.....H, Ann 9, pp 299-333
- reports on primary triangulation...H, Ann 10, pp 275-310; H, Ann 11, pp 649-672
- Winatsha language, vocabulary of.....Eth, I, pp 249-265  
(See, also, Ethnology and archæology.)
- Wind movements in western States .....H, Uncl 14, pp 187-210
- Wind River, Wyoming, Eocene beds of, vertebrata of.....H, Bull,  
vol VI, No 1, pp 183-202
- Wind River Basin, Wyoming, geology of.....H, Ann 12, I, pp 255-269
- Wind River district, Wyoming, geology of.....H, Ann 12, I, pp 175-269
- Wind River group, invertebrate fossils of .....H, Mon IX, pp 593-597  
occurrences and age of.....H, Ann 8, pp 148-149  
of Missouri region, Upper.....H, Mon IX, p lxi
- Wind River Range, Wyoming, geology of .....H, Ann 12, I, pp 228-254
- Wind River Mountains, Wyoming, strata exposed in .....H, Ann 6, pp 19-21
- Winnemucca, Nevada, astronomical determinations at.....W, II, pp 157-182
- Winnemucca Lake region, Nevada, geology of.....K, II, pp 801-816
- Wood, articles and utensils of, from graves of southern California..W, VII, pp 122-124  
implements and weapons made of bone and .....W, VII, pp 222-233  
(See, also, Ethnology and archæology.)
- Woods (H. C.), algæ of Great Basin .....K, v, p 415
- Worms collected near Yellowstone River in 1871.....H, Ann 5, pp 381-382  
(See, also, Invertebrates.)
- Worms, parasitic, found in the brain and other parts of birds..H, Ann 6, pp 735-737  
(See, also, Invertebrates.)
- Wyoming, agriculture of Colorado and .....H, Ann 4, pp 191-264  
art, primitive, in the Bridger Basin .....H, Ann 6, pp 651-653  
artesian borings in, along line of Union Pacific Railroad.....H, Bull,  
vol III, No 1, pp 181-185
- astronomical observations in .....W, 1874, pp 74-101  
in Nebraska, Colorado, New Mexico, Nevada, Utah, Montana, and ..W, II,  
pp 1-491
- Bear River, geology near head of.....H, Ann 4, pp 44-54
- Beaver Creek, geology of .....H, Ann 11, p 553
- birds collected in, list of.....H, Ann 4, pp 462-466  
collected in Utah, Idaho, and .....H, Ann 6, pp 670-715
- Bitter Creek, Cretaceous uplift of.....K, II, pp 227-238
- Bridger Basin, geology of.....K, II, pp 238-241
- Bridger Pass region, geology of.....K, II, pp 156-160
- Buffalo Fork, geology of.....H, Ann 11, pp 461-467
- Buffalo Fork Mountains, geology of.....H, Ann 11, pp 468-470
- Carbon Basin, geology of.....K, II, pp 143-148
- Cheyenne, astronomical observations at.....W, Uncl 3, pp 2-45  
geology between Denver and..H, Ann 3, pp 11-37; H, Ann 1-3, pp 111-137  
between Fort Fetterman and.....H, Ann 4, pp 11-24  
between Omaha, Nebraska, and.....H, Ann 4, pp 98-112
- Chugwater River, geology near .....H, Ann 4, pp 12-18



- Wyoming, Cinnabar Mountain, geology of.....H, Ann 5, pp 60-63  
 coal in.....H, Ann 4, pp 326-328  
 Crow Creek, geology near .....H, Ann 11, p 554  
 East Gallatin Mountains, geology of .....H, Ann 12, II, pp 15-19  
 elevations in .....H, Bull, vol v, No 3, p 464;  
                   H, Misc 1 (3d ed), pp 14-15; H, Misc 1 (4th ed), pp 109-111  
 Elk Mountain region, geology of.....LOR, 1868,  
                   pp 244, 245; H, Ann 2, pp 91-92; K, II, pp 148-152  
 Eocene beds of Wind River, vertebrata of.....H, Bull, vol VI, No 1, pp 183-202  
 Evarts, Mount, geology of.....H, Ann 12, II, pp 9-15  
 explorations in Idaho and.....H, Ann 11  
   in parts of Montana, Idaho, Utah, and, for the year 1872.....H, Ann 6  
 Feather Creek, geology near .....H, Ann 11, pp 530-531  
 Firehole River, geyser basins of.....H, Ann 6, pp 141-158  
 Fontenelle hogbacks, geology of.....II, Ann 11, pp 537-538  
 Fort Bridger, geology between South Pass and.....H, Ann 4, pp 35-41  
 Fort Fetterman, geology between Cheyenne and.....H, Ann 4, pp 11-24  
   geology between South Pass and.....H, Ann 4, pp 24-35  
 Front Range, Archean rocks of.....K, I, pp 17-28  
   geology of.....H, Ann 4, pp 112-119; K, II, pp 2-72  
   Jurassic rocks of.....K, I, pp 285-289  
   Triassic rocks of.....K, I, pp 249-258  
 Gardiner River, hot springs near .....H, Ann 5, pp 64-75  
 Gardiner River, upper, geology of.....H, Ann 12, II, pp 27-32  
 geological explorations in.....LOR, 1868, pp 229-255; H, Ann 2, pp 76-102  
 gold in Sweetwater district.....H, Ann 11, pp 142-148  
 Green River, astronomical determinations at.....W, II, pp 129-154  
   fishes of Tertiary shales of .....H, Ann 4, pp 425-431  
 Green River Basin, geology of.....H, Ann 11,  
                   pp 523-542; H, Ann 12, I, pp 202-207  
   physical features of .....K, II, pp 191-194  
   topographic features of .....H, Ann 11, pp 689-693  
 Green River coal basin, geology of .....K, III, pp 451-473  
 Green River district, agriculture in.....H, Ann 4, pp 233-237  
   geology of .....H, Ann 11, pp 509-646  
 Gros Ventre Basin, geology of.....H, Ann 12, I, pp 219-227  
 Gros Ventre Range, geology of .....H, Ann 11,  
                   pp 448-456; H, Ann 12, I, pp 208-218  
 Hams Fork, geology near.....H, Ann 11, pp 532, 534-535  
 Henrys Fork, geology near.....H, Ann 4, pp 56-63  
 Henrys Fork Basin, geology of .....K, II, pp 261-269  
 Hoback Canyon Ridge, geology of.....H, Ann 12, I, pp 178-187  
 Horse Creek, geology near.....H, Ann 11, pp 527-528  
 Indian Creek, laccolite on.....H, Ann 12, II, pp 24-25  
 insects from Tertiary rocks of Colorado and, account of some.....H, Bull,  
                   vol IV, No 2, pp 519-542  
 Jackson Hole, geology of.....H, Ann 11, pp 443-448  
 Jackson Lake, geology near.....H, Ann 6, pp 261-264  
 John Day Ridge and Basin, geology of .....H, Ann 12, I, pp 187-199  
 Junction Valley, geology of.....H, Ann 12, II, pp 42-47  
 Juratrias section of southeastern Idaho and western .....H, Bull,  
                   vol V, No 1, pp 117-123  
 Laramie group of .....H, Bull, vol V, No 2, pp 195-200  
 Laramie Hills, physical aspects of .....K, II, pp 4-7

- Wyoming, Laramie Plains, agriculture on.....H, Ann 4, pp 220-223  
 Laramie region, geology of.....LOR, 1868, pp 235-236;  
     H, Ann 2, pp 81-83; H, Ann 4, pp 121-133; K, II, pp 73-93  
 Lead Creek, geology near.....H, Ann 11, p 527  
 Lignitic formation in, distribution and thickness of.....H, Ann 6,  
     pp 327-339, 367-368  
     of Colorado, eastern, and portions of.....H, Bull,  
     vol I, ser 2, No 5, pp 401-411  
 locusts in.....H, Uncl 14, pp 97-99, 156-157  
 mammals collected in, list of.....H, Ann 4, pp 461-462  
     collected in Utah, Idaho, and.....H, Ann 6, pp 661-669  
 Marsh Creek, geology near.....H, Ann 11, pp 528-529  
 Medicine Bow Range, Archean rocks of.....K, I, pp 28-36; K, II, pp 94-111  
     Paleozoic rocks of.....K, I, p 136  
 Medicine Bow River, geology of valley of.....K, II, pp 142-143  
 Meridian Ridge, geology of.....H, Ann 11, pp 536-537  
 Meridional Valley, geology of.....H, Ann 11, pp 539-540  
 meteorological observations in.....H, Ann 4, pp 488-501  
 minerals of Sweetwater district.....H, Ann 11, pp 157-158  
 Mount Leidy, geology near.....H, Ann 11, pp 456-461  
 New Fork of Green River, geology near.....H, Ann 11, p 526  
 North Platte River, geology of.....K, II, pp 152-155  
 Oyster Ridge, Cretaceous uplift of.....K, II, pp 250-253  
     geology of.....H, Ann 11, pp 533-534  
 Park Range, Archean rocks of.....K, I, pp 36-42  
 Pass Creek, geology near.....LOR, 1868, pp 246-247; H, Ann 2, pp 93-94  
 Piney Creek, geology near.....H, Ann 11, p 529  
 plants collected in Colorado and, catalogue of.....H, Ann 4, pp 472-483  
     collected in Idaho, Utah, Montana, and.....H, Ann 6, pp 747-792  
 Rawlings Peak, geology near.....K, II, pp 160-164  
     Paleozoic rocks of.....K, I, pp 136-138  
 Rawlings Springs, geology near.....LOR, 1868, pp 249-250; H, Ann 2, pp 96-97  
 Red Creek, geology near.....H, Ann 4, pp 66-68  
 roads in Sweetwater district.....H, Ann 11, pp 57-58  
 St. Marys, geology near.....LOR, 1868, pp 248-249; H, Ann 2, pp 95-96  
 Salt River, geology near.....H, Ann 11, pp 551-556  
 Salt River Range, geology of.....H, Ann 11, pp 545-551  
 Savory Plateau region, geology of.....K, II, pp 164-166  
 Sepulchre Mountain, geology of.....H, Ann 12, pp 15-19  
 Sickie Creek, geology of.....H, Ann 11, p 546  
 Slate Creek, geology near.....H, Ann 11, pp 531-532  
 Smiths Fork, geology near.....H, Ann 11, pp 577-580  
 Smoking Creek, geology near.....H, Ann 11, p 554  
 Snake River, geology along.....H, Ann 12, I, pp 196-201  
     Grand Canyon of, geology of.....H, Ann 11, pp 437-438  
 Snake River Range, geology of.....H, Ann 11, pp 424-425  
 South Pass, geology between Fort Bridger and.....H, Ann 4, pp 35-41  
     geology between Fort Fetterman and.....H, Ann 4, pp 24-35  
 Sublette Creek, geology near.....H, Ann 11, p 576  
 Sublette Range, geology of.....H, Ann 11, pp 580-581  
 Sweetwater region, agriculture in.....H, Ann 4, pp 223-226  
     geology of.....H, Ann 11, pp 3-158  
 Sweetwater River, geology near.....H, Ann 4, pp 29-34  
 Tertiary of, fossil vertebrates of.....H, Ann 5, pp 353-372

- Wyoming, Teton Range, geology of ..... H, Ann 11,  
pp 411-424, 432-438; H, Ann 6, pp 214-223
- Teton River, course and character of ..... LOR, 1868, p 227; H, Ann 2, p 73
- Thompson Plateau, geology of ..... H, Ann 11, pp 538-539
- Togwotee Pass, geology near ..... H, Ann 11, pp 471-473
- triangulation in ..... H, Ann 11, pp 651-672
- Twin Creek, geology near ..... H, Ann 11, pp 575-576
- Two Ocean Pass, discussion of ..... H, Bull, vol v, No 2, pp 223-225
- Uinta Mountains, geology of ..... H, Ann 4, pp 41-54
- vertebrata, fossil, of the Eocene of ..... H, Ann 6, pp 543-649
- Warm Springs Creek, geology near ..... H, Ann 12, I, pp 235-237
- Washakie Basin, geology of ..... K, II, pp 207-222
- Washburn Range, geology of ..... H, Ann 12, II, pp 32-35
- topographic features of ..... H, Ann 12, II, p 478
- Wind River Basin, geology of ..... H, Ann 12, I, pp 255-269
- Wind River district, geology of ..... H, Ann 12, I, pp 175-269
- Wind River Range, geology of ..... H, Ann 11,  
pp 64-94, 524-525; H, Ann 12, I, pp 228-254
- strata exposed in ..... H, Ann 6, pp 19-21
- Wyoming Range, geology of ..... H, Ann 11, pp 540-542; H, Ann 12, I, pp 178-201
- topographic features of ..... H, Ann 11, pp 693-694
- Yellowstone River, course and character of ..... LOR, 1868, p.226; H, Ann 2, p 72
- topography near ..... H, Ann 12, II, pp 475-478
- Yellowstone Valley, geology of ..... H, Ann 12, II, pp 35-42
- (See, also, Fortieth Parallel region; Yellowstone Park.)
- Wyoming conglomerate in Wyoming ..... H, Ann 11, p 133; K, II, pp 71-72
- Wyoming Range, Wyoming, geology of ..... H, Ann 11,  
pp 540-542; H, Ann 12, I, pp 178-201
- topographic features of ..... H, Ann 11, pp 693-694
- Yakutat language, vocabulary of ..... Eth, I, pp 121-133
- (See, also, Ethnology and archæology.)
- Yampa Plateau, Colorado, geology of ..... K, II, pp 282-286
- structure of ..... UM, pp 202-203
- Yampa River, Colorado, geology of valley of upper ..... K, II, pp 181-187
- Yampa River district, Colorado, topographic report on ..... H, Ann 10, pp 359-378
- Yampa Valley and Browns Park, Colorado, geology of ..... K, II, pp 222-225
- Yarrow (H. C.), notes upon geographical distribution and variation with  
regard to the zoology of the Western United States as relates  
more particularly to mammals and birds ..... W, v, pp 23-34
- notice of a ruined pueblo and an ancient burial place in the valley of the  
Rio Chama ..... W, VII, pp 362-365
- pueblo of San Juan ..... W, VII, p 331
- pueblo of Taos ..... W, VII, pp 327-330
- report on ethnological examinations in the vicinity of Santa Barbara, Cali-  
fornia ..... W, 1876, pp 312-321
- report upon ethnological researches near Santa Barbara, California ..... W, VII,  
pp 32-47
- report upon the collections of batrachians and reptiles made in portions of  
Nevada, Utah, California, Colorado, New Mexico, and Arizona,  
1871-1874 ..... W, v, pp 509-584
- report upon the collections of terrestrial and fluviatile Mollusca made in  
portions of Colorado, Utah, New Mexico, and Arizona, 1872-  
1874 ..... W, v, pp 923-954
- work in charge of ..... W, 1872, pp 52-55; W, 1874, pp 107-110; W, 1875, pp 139-149

- Yarrow (H. C.) and Cope (E. D.), report upon the collections of fishes made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871-1874.....W, v, pp 635-703
- Yarrow (H. C.) and Coues (E.), notes on the herpetology of Dakota and Montana .....H, Bull, vol iv, No 1, pp 259-291  
report upon the collections of mammals made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871-1874....W, v, pp 35-129
- Yarrow (H. C.) and Henshaw (H. W.), report upon and list of birds collected in Utah and Nevada in 1872 .....W, Uncl 4, pp 5-33  
report upon the reptiles and batrachians collected in 1875-1877 in California, Arizona, and Nevada .....W, 1878, pp 206-226
- Yarrow (H. C.) and Severance (M. S.), notes upon human crania and skeletons collected by the expeditions of 1872-1874 ...W, vii, pp 391-397
- Yellow Pine district, Nevada, notes on.....W, 1871, pp 52-53
- Yellowstone Park, access to, by railroads, means of.....H, Ann 6, pp 92-95  
climate of.....H, Ann 12, ii, pp 486-488  
elevations in .....H, Ann 12, ii, pp 457-463  
forests, fossil, of.....H, Bull, vol v, No 1, pp 125-132  
geology of .....H, Ann 6, pp 120-167; H, Ann 12, ii, pp 1-64  
geysers of .....H, Ann 5, pp 104-126; H, Ann 6, pp 138-140, 144-158, 234-242, 244-247  
law creating, passage of .....H, Ann 5, pp 162-165  
routes for roads from settlements to .....H, Ann 6, pp 802-807  
springs, thermal, in .....H, Ann 6, pp 122-125, 128-130, 135-143, 176-178; H, Ann 12, ii, pp 63-453
- Yellowstone region, meteorology of .....H, Ann 5, pp 501-524
- Yellowstone River, course and character of.....LOR, 1868, p 226; H, Ann 2, p 72  
geological sections near headwaters of, notes on..H, Bull, vol ii, No 3, pp 197-209  
geology near.....H, Ann 5, pp 51-63, 81-92  
topography near .....H, Ann 12, ii, pp 475-478
- Yellowstone Valley, geology of.....H, Ann 5, pp 173-182; H, Ann 6, pp 28-44, 49-52, 119-140; H, Ann 12, ii, pp 35-42
- Yellowstone and Missouri rivers, geology about headwaters of, sketch of..H, Uncl 16, pp 21-29
- Young (W.), report of .....W, 1878, pp 120-122; W, 1879, pp 228, 237
- Zapus hudsonius, account, critical, descriptive, and historical of .....H, Bull, vol i, ser 2, No 5, pp 254-262
- (See, also, Vertebrates.)
- Zeolite, analysis of, from New Mexico, Abiquiu.....W, 1875, p 101
- Zircon, analysis of, from Colorado .....H, Ann 10, pp 153, 154
- Zirkel (F.), microscopical petrography of Fortieth Parallel region .....K, vi
- Zoology of Western United States, geographical distribution and variation in..W, v, pp 23-34
- (See, also, Vertebrates; Invertebrates.)
- Zuñi, pueblo of, cachina (a dance) at.....W, vii, pp 332-336
- (See, also, Ethnology and archaeology.)
- Zygenidæ and Bombycidæ collected in portions of California and Arizona....W, v, pp 795-802
- (See, also, Invertebrates.)

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[Bulletin No. 222.]

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